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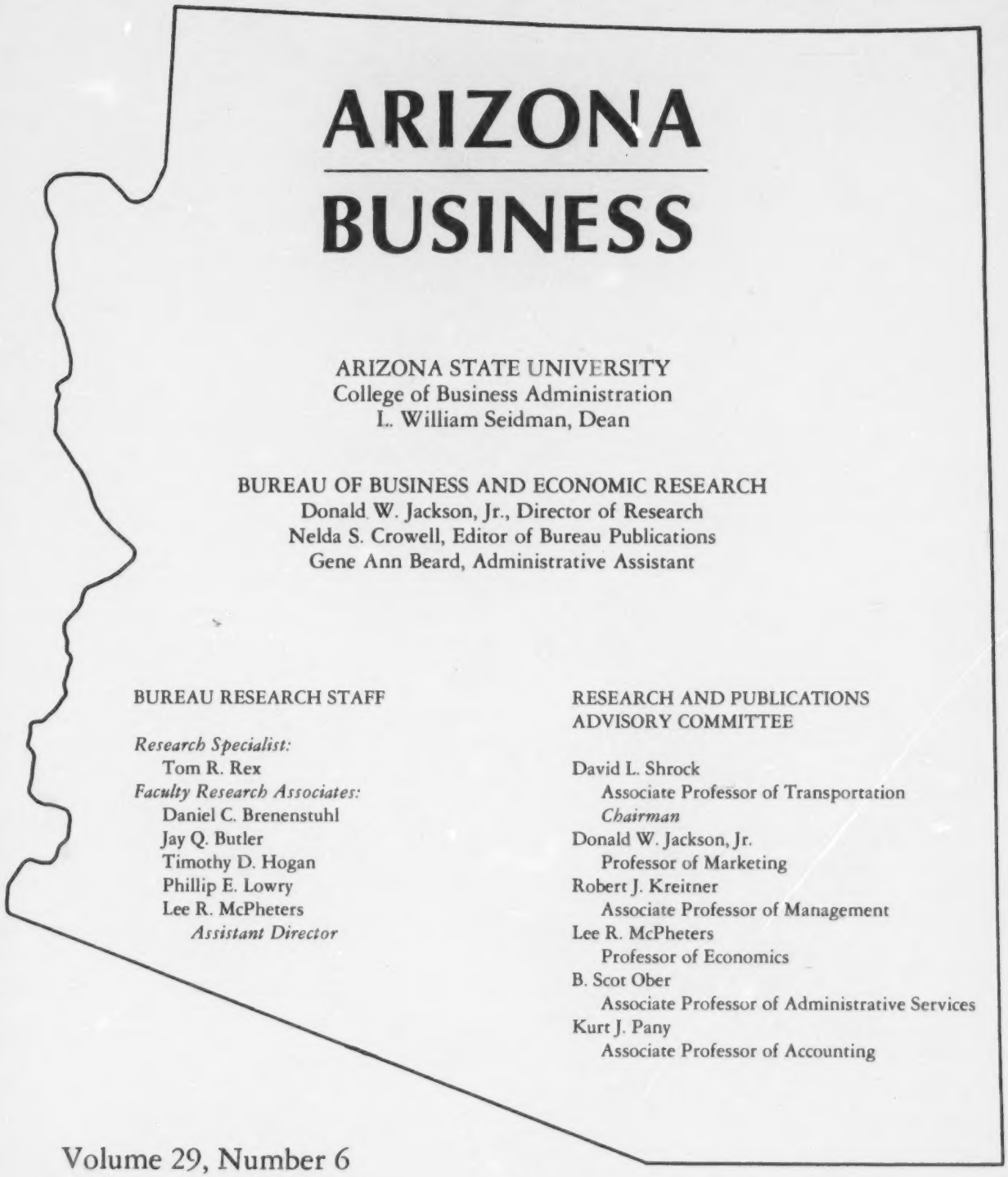

ARIZONA BUSINESS

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Report to the Reader

According to the Mission and Scope Statement adopted by the Arizona Board of Regents, Arizona State University is to "continue as a major research university with special emphasis on programs needed in the state's major urban area." The statement further specifies that ASU will "develop nationally recognized programs in Business Administration . . ." as well as in four other areas of emphasis.

The significance of research in this charge is clear, and because *Arizona Business* is an important outlet for communicating research results to the public, it plays a key role in this mission. Many of our faculty members are engaged in research that has direct relevance for the practicing business person. The results of this kind of research are reviewed, edited, revised, and ultimately published in *Arizona Business* for dissemination to our readers. Those readers include a large proportion of people in business and government in the metropolitan Phoenix area plus faculty in other universities.

This issue of *Arizona Business* carries a representative sample of this kind of meaningful research both from our own faculty and from contributors out of state. The article on part-time professional employment presents a timely solution to several employment problems. The health care industries have long understood the value of the part-time professional employee, and a similar trend is developing in other service organizations.

A different kind of research is the report on NOW accounts, which is more data based. The article describes a survey of practices relating to NOW accounts and discusses Arizona practices relative to practices in other western states.

Still another kind of research produces the Retired Couples Budget. Because the U.S. Bureau of Labor Statistics does not include the Phoenix area in its statistical series, the ASU Bureau of Business and Economic Research fills the void by compiling data on the retired couples budget as well as the urban family of four budget and the consumer price index, which appears on page 24.

Arizona Business also presents three regular research features: "The Arizona Business Scene," "A Survey of Arizona Business Conditions," and the quarterly analysis of "Arizona Construction Activity." All of these articles confirm the fact that university research makes a vital contribution to our community and our state.

Permanent Part-Time Professonal Employment

BARBARA ZIMMER
NANCY NAPIER

Permanent part-time professional employment, long-term high-talent positions for 35 or fewer hours per week, as the Bureau of Labor has traditionally defined part-time employment, could be an important solution to several work problems facing organizations in the next decade. It is an area that is gaining increasing interest by academic researchers as well.[1] This article first discusses trends that call for alternative work patterns, particularly permanent part-time employment. Next is a short review of the nature of permanent part-time employers, employees and the jobs. Finally, the article discusses how employers can pursue permanent part-time options, with suggestions of ways to improve chances for success. While the focus is on professional part-time employment, much of the discussion applies equally to nonprofessional employees as well.

The article draws on findings in available literature and exploratory interviews with representatives of six organizations in the Pacific Northwest which are using or considering permanent part-time options for professionals. The firms were selected for interviews because they currently employ or are likely to employ professionals in part-time positions and the firms represented several sectors where professional part-time employment is likely to grow. The interviews comprised primarily open-ended questions, designed to solicit general impressions regarding trends and practices.

The use of permanent part-time professional employees can benefit employers through greater scheduling flexibility, retention of valued employees, increased employee energy, a broader recruitment pool, and improved employee satisfaction.

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WHY PERMANENT PART-TIME EMPLOYMENT NOW?

Several trends suggest the need for work patterns that differ from the typical 40-hour work week for 48 to 50 weeks per year. First, the nature of the work force puts pressure on organizations regarding ways to use workers: the baby boom cohort and increase in women entering the work force will increase firms' supply of labor in entry and middle-level jobs in the 1980s. Second, women have tended to seek and accept flexible schedules and will probably continue to do so. If there is increasing labor supply from this group, employers may be forced to consider other options. Also, some career-oriented women who take time off for child rearing prefer not to return to work full time and thus seek alternatives. In addition, inflation may reduce the attractiveness of early retirement for some employees. The current situation of inflation and recession may cause people to want to supplement family income, by seeking additional work, including part-time positions. Finally, increasingly more

workers are in professional positions, which sometimes permit flexible schedules.

THE NATURE OF PERMANENT PART-TIME PROFESSIONAL EMPLOYMENT

The term "permanent part-time professional employment" comprises two components: "permanent part-time" and "professional". Permanent part-time employment (PPT) can be defined many ways. For the firms we talked with, PPT is a position that the position-holder and the employer consider to be a long-term (not temporary) post with an agreed upon schedule, taken voluntarily by the employee for usually 35 or fewer hours per week.[2] The position's schedule is established on a daily, weekly or monthly pattern that is routinely followed, rather than frequently changed. Normally, wages and benefits are negotiated on a case-by-case basis, commensurate with the position and responsibility level.

The second part of the term "professional" refers in the broadest sense to "individuals who possess special skills or knowledge acquired through substantial training, education or experience."[3] Presumably, then, a PPT professional position may be similar to a full-time professional one in responsibilities, recognition and reward.

Employee Characteristics

According to Cohen and Gadon's 1978 study, women typically represent the largest share of PPT workers —about 70 to 80 percent of the total PPT work force (professional and non-professional).[4] As many as 30 percent of all female workers work in PPT positions. In the professional ranks, about 19 percent of all female professionals work part-time compared with 5.5 percent of male professionals. In addition, married women are more likely and married men less likely to work part-time than their unmarried counterparts. PPT employees are usually younger than 35 and older than 59 years although women PPT workers are more likely to be distributed across all age groups than men.[5]

Employer Characteristics

PPT jobs in general are concentrated in the service industries.[6] Customary employers are libraries, educational institutions at all levels, social service organizations, health care facilities, and other public agencies.[7] These institutions are settings where the professional work force is mainly female, and scheduling may be other than 8:00 to 5:00, five days a week. Representatives of firms we talked with emphasized that in such settings, alternative work patterns, like PPT, are critical to keeping a stable work force. For example, in a hospital, a large proportion of part-time employees is important to meet varying schedules.

Based on recent literature and general discussions with representatives of firms in the Pacific Northwest, there is little evidence that either organizational size or geographic location affect whether permanent part-time workers are employed. This apparent lack of relationship may well be a function of the dearth of information from or about different geographic regions. Although alternative work patterns are evident in urban settings, and case studies are available about some organizations, there is little information about rural areas, where there may be at least as much innovation as in urban areas.

PPT Job Characteristics

PPT jobs typically have discrete job responsibilities that can be done in pieces by an individual, or face predictable cycles of work demand. A physician, for example, might schedule the numbers and times of appointments to accommodate a part-time position. Conversely, an engineer working on a team project basis requiring interaction with others may be more restricted in schedule freedom.

There is little evidence that managerial positions have been filled on a part-time basis. In general, the literature suggests that the higher the job skills and degree of supervisory responsibilities, the less likely a worker is to be employed part-time.[8] Employers claim that managerial positions cannot be part-time because of demand for continuity, spontaneous communication between manager and worker, and the firm's wish to reap its full investment in managerial training. While the reasons for the lack of PPT employees at the managerial level may seem obvious, actual evidence is distinguished more by the absence of any research in this area than by evidence that the idea does not work.

DESIGNING AND IMPLEMENTING PPT OPTIONS

Permanent part-time options for professionals are usually initiated by an employee and reviewed by the employer on a case-by-case basis. Typically, an existing or potential staff member approaches management and

tries to convince the employer that the job can be designed for and filled by a part-time professional or professionals. Job sharing opportunities, when people share the responsibilities of one job, frequently develop this way when two or more people approach an employer with the idea. In one city, the Public Defender's office uses a modified version of job sharing: three attorneys share two positions by working alternate four-month periods with one week overlap for continuity.

Initiative for PPT employment may come from the employer, though this is more common for nonprofessional positions. Employer responses are frequently such options as offering job sharing to current full-time employees who would prefer to work part-time, allowing new applicants to interview for full-time jobs as a team, advertising new openings as available for one full-time or two part-time applicants, or identifying certain positions as potentially shared or part-time jobs.

Such initiative by employers is infrequent; an exception is the health care field where the shortage of nurses and physical therapists has led employers to be more flexible regarding part-time employees. In fact, hospital personnel administrators we interviewed often see PPT as a logical and necessary work pattern development rather than an exotic option.

Once the general idea has been broached and accepted, the employer and PPT employee negotiate specific issues. Agreeable schedules, responsibilities and earnings and benefits are the most common initial issues. Because the jobs and issues are frequently negotiated on a case-by-case basis, there are rarely written policies to guide employers or employees in implementing this alternative work pattern. Lack of such guidelines has repercussions in several ways. First, of course, each time an employee or employer wants to pursue PPT, all steps must be developed from scratch. In addition, PPT employment is sometimes viewed as a temporary "experiment," for select employees to pursue for a given time to "try it out." Without a written policy, permanent part-time may be taken less seriously than if it were considered permanent. No written policy may also indicate a lack of commitment to part-time alternatives as a formal organizational policy or uncertainty about what that policy should be.

WHAT ARE THE TRADEOFFS?

Advantages and disadvantages of PPT are difficult to assess accurately. The basis for this article comes from literature and interviews with users of PPT options. Thorough assessment of tradeoffs is unavailable, suggesting a real need for research to investigate the advantages and disadvantages systematically.

Advantages

Firms using permanent part-time options benefit in several ways. Examples include greater scheduling flexibility, retention of valued employees, increased "on the job" employee energy, a broader recruitment pool for the organization, and improved employee satisfaction.[9] Some PPT users mention they believe they get "more than 50 percent effort" from the employees who work "half-time." This observation is based upon employers' view that PPT employees work at full speed during the time they are physically on the job and then, when the employees are away from the workplace, they may continue thinking about problems and job issues.

Another advantage is the flexibility the organization gains. A small private school, for example, may be able to offer a wider array of courses to students if it can hire more specialized faculty on a part-time basis.

The majority of information on advantages of PPT relates to the employee. Usually claimed as the most important advantage to the employee is the increased amount of disposable time. In fact, employee demand for more leisure time has been a major driving force for PPT alternatives. Since most PPT workers are female, the demand for reduced hours reflects a desire for leisure time and family needs. Because so many women want to join the labor force but are unwilling or unable to work full-time, their demands are forcing organizations to consider or use PPT. The existence of professional PPT options allows such women access to the job market where it previously may have been denied. Coupled with increased leisure time is frequently greater employee job satisfaction. These two contributors to work life quality also represent changing labor force values.

Limitations

Employers face disadvantages in the areas of benefit and training costs, administrative difficulty in scheduling, maintaining communication between PPT and full-time employees, between PPT employees and outside constituents and an inflexibility on the part of coworkers and supervisors. There is frequently a "built-in expectation" that part-time workers are inaccessible, less committed and less reliable. Some costs, such as training, may be defrayed if two persons share one job: if one person leaves, the remaining employee knows the job and can train a replacement.

In seeking more flexible hours and greater leisure time, employees sometimes downplay an important issue: PPT workers receive lower hourly pay than full-time workers. On the average, male PPT workers earn 30 percent less than their full-time male equivalents, while female PPT employees earned 17 percent of full-time female equivalents.[10] While people recognize this implicitly, they may be unaware of its impact until they take the job. The issue is extremely sensitive when employees go from full to part-time positions: the overall salary level changes dramatically, which can be disturbing unless expected and planned for. In addition to lower pay, PPT employees often receive fewer or no fringe benefits. It is not unusual for PPT to receive little or no sick leave pay, no paid vacations, access to group health insurance, retirement programs or other benefits. The situation of low benefits is most common among nonprofessional employees but exists for professional PPT employees as well.

Another significant issue for employees is the effect on a career that PPT status will have. Most current PPT situations offer less chance for upward mobility than full-time situations. For a career-oriented professional, it can be critical that the employer view a person in the PPT position with an equivalent degree of seriousness as a person in a full-time position. This image issue is crucial if expectations of advancement and further training opportunities are to be met. It suggests the need for a career path that allows employees to move in and out of full and part-time employment as both employer and employee needs change (Figure I).

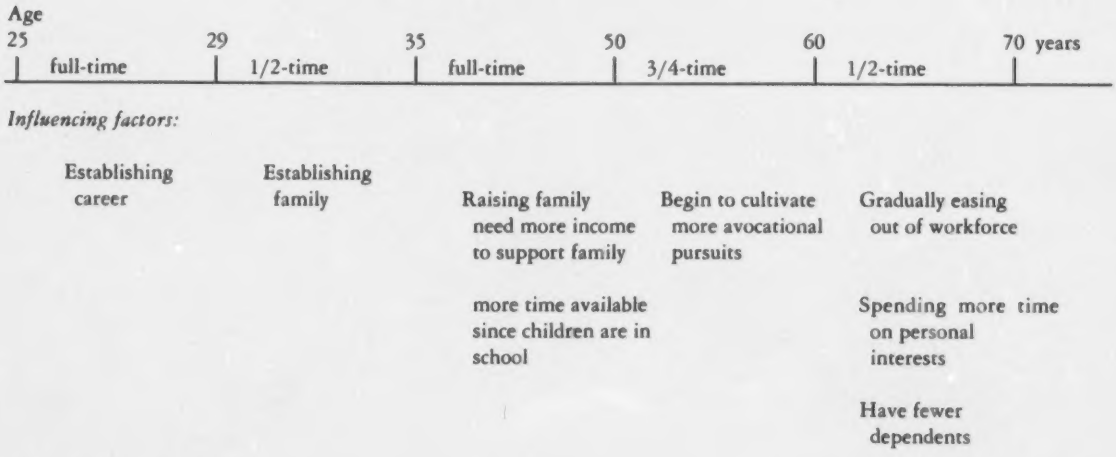
Other PPT employee concerns are not easily classified as pro or con. For example, PPT workers, especially in a job-sharing situation, may spend relatively more time maintaining communication than their full-time counterparts. Although it may be time consuming, a positive result may be better communication and fewer misunderstandings and mistakes. In addition, part-time employees' work may sometimes involve performing extra tasks. For example, at a small private school, administrators often request services such as coaching or supplemental class activities from part-timers, who may or may not be compensated for their time. To maintain good working relations and preserve the privilege of the PPT position, the PPT employee may take on the extra work, but may eventually resent what effectively results in more work and lower pay.

Older workers can benefit from increased part-time opportunities. As retirement age and date become less certain, employers may need to find good ways to use senior employees productively. In addition, many employees seek gradual, rather than abrupt, separation from the working world. Part-time employment positions allow an employer to keep trained and experienced employees and allow the employee to maintain social contact with coworkers while adjusting to retirement.

While older workers approaching retirement may not fit into the previously defined category of permanent

FIGURE I

A LIFETIME EMPLOYMENT CYCLE



Source: Developed by the author.

part-time workers since they are no longer viewed as long term, phased retirement is still important to consider. If part-time career oriented employment becomes more associated with certain life stages, it may be that older workers will simply be in the final phases of a part-time/full-time/part-time cycle. The important point is to recognize the varying needs of individuals at different stages in their lives and to allow the employment structure to respond to those needs.

WHAT CAN EMPLOYERS DO?

Firms interested in pursuing permanent part-time employment options can consider several approaches. Some may be more firm initiated, others may be responsive to employee requests. The following suggestions are based on the assumption that management wants to try some form of PPT.

As a firm reviews its other human resource management practices, such as a new compensation package, training program or food service benefits, it can and should review its work time structure practices. Certain full-time positions may be adapted to permanent part-time status, such as the positions for attorneys in the city public defender's office. Realization of such tangible benefits as reduced benefit costs or retention of valued employees justify resources spent in investigation.

Requests for PPT options should be considered from both present employees and job applicants. Again, a job may be as effective, if not more so, when it is restructured. Job incumbents may offer redesign suggestions but outside applicants could bring fresh perspectives.

Permanent part-time arrangements are best attempted where the chance for success is high. Any new idea faces obstacles. So, for the "first try" with PPT employment, it should be used in situations where people currently work well together and are adaptable. Alternatively, PPT might be used in a newly formed work group, where firm traditions for doing things do not yet exist.

One natural situation where PPT can be "eased" into place involves jobs held by women returning from maternity leave, especially if the women wish to return to the work force slowly. Another option is to use PPT for people "easing" into retirement.

If a firm does start a PPT program, an initial commitment must be made and the firm must be prepared to follow through. Management needs to establish guidelines and be prepared to handle problems as they arise. Problems frequently relate to the attitudes of coworkers and supervisors toward permanent part-time employees. Managers should be prepared to give other employees time to adjust, understand and learn to work with the PPT employees. "Orientation sessions" for coworkers and supervisors could ease the transition process.

Another way to show commitment is to adopt the permanent part-time option as a long-term policy, rather than an experiment. Research on quality of work life and other work design programs suggests that employees view an "experimental program" as one that will go away eventually and as such is simply endured. Thus, the lack of management commitment can kill a work innovation before it has a chance. Even if a PPT program fails and is discontinued, it should be started with the expectation of success.

Ultimately, PPT employees should fit into the firm's existing career ladder. Employees may eventually move into and out of the PPT ladder just as they would from management to technical ranks. If this is difficult to imagine at the outset, consider as a minimum the idea of having progressive steps for people in PPT jobs. For example, teachers can hold PPT jobs and progress within that occupational category, but must become full-time if they accept an administrative position. If this is the expectation, it must be clearly established.

Many firms are concerned about the cost of administering benefit programs or paying relatively more for PPT employees than full-time employees for commensurate benefits. An appropriate tactic is to negotiate with insurance firms and offer programs designed for permanent part-time employees. As the number of employees increases, so should firms' influence in requesting specific benefit packages for that category of employees.

Another problem, communication exchange, can be difficult if coworkers and supervisors perceive PPT employees to be "away" frequently. Supervisors and coworkers are sometimes concerned about accessibility of PPT employees for meetings, discussions and informal talks. However, workers can group their comments and questions for a single meeting rather than holding impromptu meetings. The result could be increased overall efficiency in communication.

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[1]Nancy L. Rotchford and Karlene H. Roberts, "Part-time Workers as Missing Persons in Organizational Research," *Academy of Management Review* (April 1982): 228-234.

[2]Stanley D. Nollen, "What is Happening to Flexitime, Flextour, Gliding Time, the Variable Day and Permanent Part-time Employment?", *Across the Board* 17 (April 1980): 6.

[3]Preston P. LeBreton, Ed., *The Assessment and Development of Professionals: Theory and Practice* (Seattle: University of Washington, 1976), p. 1

[4]Allan R. Cohen and Herman Gadon, *Alternative Work Schedules: Integrating Individual and Organizational Needs* (Reading: Addison-Wesley Publishing Co., 1978), p. 72.

[5]Carol Leon and Robert W. Bednarzik, "A Profile of Women on Part-time Schedules," *Monthly Labor Review* CI (October 1978): 10.

[6]Stanley D. Nollen and Virginia H. Martin, *Alternative Work Schedules* (New York: AMACOM, 1978), p. 11.

[7]Michael Frease and Robert A. Zawacki, "Job-sharing: An Answer to Productivity Problems?" *The Personnel Administrator* 24 (October 1979):35.

[8]William V. Deutermann, Jr. and Scott Campbell Brown, "Voluntary Part-time Workers: A Growing Part of the Labor Force," *Monthly Labor Review* CI (June 1978): 8.

[9]John W. Newstrom and Jon L. Pierce, "Alternative Work Schedules: The State of the Art," *The Personnel Administrator* 24 (April 1980): 22.

[10]John D. Owen, "Why Part-time Workers Tend to be in Low-wage Jobs," *Monthly Labor Review* (June 1978): 13.

NOW Accounts: Arizona and the Western States

JAMES R. BOOTH

A negotiable order of withdrawal (NOW) account is basically a checking account that pays explicit interest or a savings account on which a person may write checks. They are only to be offered to individuals and nonprofit institutions. From the public's perspective, they are similar to a sharedraft account offered at a credit union. Both pay explicit interest yet allow the customer to write checks on the account as with the traditional checking accounts. NOW accounts are a recent phenomena, authorized nationwide by Congress on January 1, 1981.

An insight into the expected nationwide development of NOWs has been available through study of the New England Experiment, where those accounts have been legal since 1976.[1] In addition, various financial institutions have done studies of consumer attitudes about NOW accounts. This evidence has led to considerable forecasting of the development of NOWs in the rest of the nation.[2] These forecasts have examined the institutions' willingness to offer NOWs and have focused on pricing strategies. The competitive battle between banks and savings and loans to attract NOW account customers has received most of the attention.

Now that these accounts have been offered for quite some time, it is appropriate to look at what has actually occurred in this new competitive financial market. The purpose of this article is to examine the current status of NOWs and sharedrafts in Arizona and in the Twelfth Reserve District, which includes Arizona and six other states — California, Idaho, Oregon, Nevada, Utah, and Washington.[3] The study reports findings obtained nine months after NOW accounts were authorized nationwide.

In order to demonstrate the acceptability of NOW accounts, information is presented on the number of banks, savings and loans, and credit unions that are offering these types of accounts. To indicate the acceptability of NOW accounts relative to other financial services, information is presented on the use of Automated Teller Machines, overdraft protection, and credit cards. The survey also gives information on the pricing strategies and the characteristics of the NOWs at the various types of institutions.

ALTERNATIVE VIEWS ON NOWs

The extensive national media coverage of the nationwide authorization of NOWs explains part of the reason for the current popularity of these accounts with consumers. The majority of the banks and savings and loans were first given the authority to offer NOWs with the passage of the Depository Institutions Deregulation

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A survey of banks and savings and loan associations in Arizona and other western states focused on various aspects of NOW accounts: the number of such accounts, the rate of interest paid, minimum balance requirements, service charges and additional services.

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and Monetary Control Act of 1980. The variations in pricing strategy appears to have developed from differences in perspective and objectives regarding these accounts.

Cox suggests that banks view NOW accounts as nothing more than a checking account with an additional wrinkle of paying interest.[4] This view results from the fact that banks have historically provided regular checking accounts, and the handling procedure of NOWs is quite similar. Thus banks are expected to focus on ways to offer these accounts profitably. The evidence from New England suggests that they will do this by setting a high minimum balance requirement. The high-balance checking account customer is not expected to be deterred by a high minimum balance and therefore these traditional checking accounts will be converted to NOWs at the banks. The lower average balance accounts may move to savings and loans, but banks feel these accounts cannot profitably be converted into NOWs and thus they are willing to lose these accounts.

The savings and loan associations are believed to view the NOW account pricing problem quite differently. NOWs are unfamiliar to these institutions and may be viewed by many as an opportunity to become a full-service family financial institution. These accounts may be viewed as an important component in the line of services that the savings and loans plan to offer the consumer in an attempt to win these customers from banks.

Murphy and Mandell found that New England customers at savings and loans possessed characteristics similar to the bank's checking account customers.[5] According to Cox, this means many NOW account customers at savings and loans will come at the expense of commercial banks.[6] It is further suggested that in the attempt to override the consumer loyalty component of the banking relationship, savings and loans may conclude three things about NOW pricing. First, if savings and loans want to gain NOWs at the expense of banks, they will have to price them much more attractively than banks.[7] Second, it is suggested that savings and loans can gain if they are able to differentiate their NOW product image from NOWs offered at banks. This explains why savings and loans have been generally more interested in offering additional features such as check truncation[8] and direct deposit as alternatives to minimum balance requirements, etc. The third implication that appears to be a major consideration of more aggressive pricing strategies by savings and loans is the belief that as the consumers bring their NOWs to their institution, those customers will also bring their loans, savings accounts, and other financial business.

Hartzog,[9] in developing a model to explain theoretically why savings and loans should be willing to price NOWs more aggressively than banks, focused on a slightly different aspect of the line of services agreement. Hartzog's model suggests these strategies were a result of the lack of internal transfers in savings and loans. Savings and loans were not expected to have possessed checking accounts prior to the authorization of NOWs; therefore no internal transfers of funds are expected to take place within these institutions as a result of the offering of NOWs.

The previous discussion has focused on the basis for the competitive battle between banks and savings and loan associations, ignoring the role of credit unions in this market. The credit unions have experienced several advantages over the banks and savings and loans in this market (e.g., less restrictive maximum interest rate ceilings and the fact that in most regions of the country, sharedraft accounts have been permitted for some time). In the near-term battle for customers, these institutions are not expected to be as important as banks and savings and loans because of the smaller size of the credit union industry. The terms of the sharedrafts, which existed prior to 1981, are not expected to change drastically in the near future as a result of the nationwide NOWs.

EMPIRICAL EVIDENCE

The primary evidence for the way the competitive pricing strategies of the savings and loans and banks will develop in the nation and in the Twelfth Federal Reserve District comes from the New England experience.[10] In most New England states the commercial banks have offered NOWs on less competitive terms than have the savings and loans and mutual savings banks. In Massachusetts and New Hampshire many savings and loans sought to build market share by offering NOWs with no service charge and no minimum balance. The evidence indicates that banks in those and other New England states responded by offering no-service-charge NOWs subject to substantial minimum balance requirements. These minimum balance requirements and their previous monopoly position as the only institutions permitted to offer checking accounts appear to have allowed banks to attract higher than average NOW balances. Kimball states that after the initial period in which NOWs were authorized, commercial banks in most New England states experienced an erosion of the NOW account market share.[11]

A recent survey of the Southeast appears to confirm, at least initially, the New England Experiment with

NOWs[12]. Savings and loans are showing more aggressiveness in their pricing strategies. Banks tend to be more defensive with minimum balance requirements substantially higher than at savings and loans. Fifty-four percent of the banks surveyed assessed charges on both a monthly and per check basis, compared to only 19 percent of the savings and loans. Banks appear to be more willing to offer NOWs, but only 16 percent of the banks include balances in other accounts as part of the required minimum while 27 percent of the savings and loans count these balances, indicating that the savings and loans are more flexible concerning how the minimum balance requirement for a NOW account may be met at their institution.

These findings are consistent with each group's postulated view of NOW accounts and with the evidence from New England. Therefore, it is believed *a priori* that a similar pattern of competitive strategies exists for the Twelfth Federal Reserve District. Arizona and the other states in the Twelfth Federal Reserve District have similar laws with regard to branching for savings and loans and banks, though significant differences do exist with regard to the number and size distributions of each type of financial institution in these states.

In order to get an accurate picture of the strategies practiced in the western states, a survey instrument was mailed to more than 1,300 institutions including banks, savings and loans, and credit unions in the Twelfth Federal Reserve District — Arizona, California,[13] Idaho, Oregon, Nevada, Utah, and Washington. The survey produced 555 respondents for a response rate of 42.7 percent.

Questions included the type and size of the financial institutions and various aspects of NOWs or sharedrafts, including whether they were currently offered. More specific questions focused on the number of NOWs or sharedrafts, the current rate of interest paid, whether these rates were compounded and if so, how often, minimum balance requirements, service charges, and check truncation. Another set of questions determined additional services offered by the institutions along with sharedrafts and NOWs. These services include overdraft protection, direct deposit, automated teller machines, and major credit cards. This information was sought to provide a picture of the overall market and competitive positions of the various financial institutions in the Twelfth District and to allow a comparison of the institutions in Arizona with the other institutions in the Twelfth District.

SURVEY RESULTS

The results of this survey are presented in Tables 1 through 4. Table 1 indicates the availability of financial services, including NOWs or sharedrafts from each type of institution in Arizona and in the Twelfth District. This information indicates the reaction by each type of institution to the new legislation. Included in Table 1 is the degree to which various types of institutions combine NOWs or sharedrafts with other financial services such as overdraft protection, etc.

As indicated by Table 1, approximately nine months after nationwide authorization to offer NOW accounts, 100 percent of the respondent banks in Arizona were offering these accounts as compared to 96.5 percent of the commercial banks in the rest of the Twelfth District. This may suggest that commercial banks in Arizona reacted slightly faster to the opportunity to issue NOWs

TABLE 1
INSTITUTIONS OFFERING VARIOUS FINANCIAL SERVICES

	COMMERCIAL BANKS				*SAVINGS AND LOAN ASSOCIATIONS*				*CREDIT UNIONS*			
	Arizona		*Other*[a]		*Arizona*		*Other*		*Arizona*		*Other*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Total Offering NOWs or Sharedrafts	12	100.0	111	96.5	7	77.8	90	90.9	17	94.4	101	66.0
Offering Overdraft Protection	9	75.0	52	47.3	7	100.0	48	53.3	16	94.1	79	79.8
Offering Automated Teller Machines	7	58.3	44	39.6	4	57.1	28	31.1	4	23.5	13	12.9
Offering Credit Cards	12	100.0	59	53.2	4	57.1	33	36.7	1	5.9	8	7.9

[a]"Other" refers to other banks in the Twelfth District, which includes California, Idaho, Oregon, Nevada, Utah, and Washington.
Source: Developed by the author.

than banks in other western states. Approximately 78 percent of the savings and loans in Arizona are offering NOWs compared to 91 percent of the non-Arizona savings and loans.

In other services such as overdraft protection, automated teller machines, and credit cards, it appears that commercial banks, savings and loans and credit unions in Arizona are more willing to offer these services in conjunction with NOWs and sharedrafts than similar institutions in other Twelfth District states. Focusing on Arizona, it appears that savings and loans are more willing to provide overdraft protection and slightly less willing to offer credit cards and automated teller machines than are Arizona commercial banks. Credit unions in Arizona have been slower to offer these services than other institutions in Arizona, but when compared with credit unions in other states in the sample, they are more aggressive.

Focusing on the question of how aggressively institutions are pricing their NOWs or sharedrafts, Table 2 indicates that savings and loans in Arizona require lower minimum balances on average and fewer of the savings and loans have a penalty for falling below the minimum than commercial banks in Arizona. This evidence suggests that the savings and loans in Arizona at the time of the survey were pricing the NOWs at their institutions more aggressively than the commercial banks in Arizona. The average minimum balance requirements of Arizona commercial banks and savings and loans suggests that higher minimums are required in Arizona than in other states. This trend appears true for the credit unions surveyed and overall suggests that commercial banks, savings and loans, and credit unions in Arizona are pricing NOWs and sharedrafts more liberally than these institutions in the other sample states.

Table 3 provides information on the average interest rate paid by each type of institution and on the method of compounding. Credit unions stand out as paying significantly higher interest on sharedrafts than other institutions are paying on NOWs in the survey area. These findings are not surprising in light of the regulations on the rates that banks and savings and loans are able to pay on NOWs.[14] When considering the institutions that compound interest, the difference becomes larger. Eighty-three percent of the savings and loans compounded interest on a daily basis while only 45 percent of the commercial banks compounded daily. Many of the credit unions surveyed compounded interest on a weekly basis.

Table 4 presents the results on the number and size of balance of NOWs and sharedrafts by type of institu-

TABLE 2
MINIMUM BALANCE REQUIREMENTS ON NOW ACCOUNTS

	COMMERCIAL BANKS				*SAVINGS AND LOAN ASSOCIATIONS*				*CREDIT UNIONS*			
Minimum	*Arizona*		*Other*		*Arizona*		*Other*		*Arizona*		*Other*	
Balance	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
$ 0 - 50	1	8.3	13	11.8	4	57.2	15	17.2	12	70.6	79	80.6
51 - 150	0	0	0	0	1	14.3	17	19.5	0	0	6	6.1
151 - 500	1	8.3	27	24.5	0	0	43	49.4	5	29.4	11	11.2
501 - 1,000	5	41.7	35	31.8	0	0	4	4.6	0	0	1	1.0
1,001 - 1,500	2	16.7	10	9.1	0	0	3	3.4	0	0	0	1.0
1,501 - 2,000	1	8.3	22	20.0	2	28.5	2	2.3	0	0	1	0
2,001 - 3,000	1	8.3	2	1.8	0	0	1	1.1	0	0	0	0
3,001 - 4,000	0	0	1	0.9	0	0	1	1.1	0	0	0	0
4,000 +	1	8.3	0	0	0	0	1	1.1	0	0	0	0
Number and Percentage Offering NOWs	12	100.0	111	96.5	7	77.8	90	90.9	17	94.4	101	66.0
Mean Value of Minimum Balance Requirement*	1441.83		1013.318		685.00		466.678		141.529		69.388	
Institutions Having a Penalty for Falling Below Minimum Balance Requirements	10	8.3	101	91.0	5	71.4	71	80.7	3	20.0	19	21.1

Source: Developed by the author.

*The mean value of the minimum balance requirement was determined by taking the arithmetic mean of those institutions that reported the dollar value of their minimum balance requirement.

TABLE 3
INTEREST RATES, COMPOUNDING, AND SERVICE CHARGES ON NOW ACCOUNTS

	COMMERCIAL BANKS				*SAVINGS AND LOAN ASSOCIATIONS*				*CREDIT UNIONS*			
	Arizona		*Other*		*Arizona*		*Other*		*Arizona*		*Other*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Compounding	11	91.7	87	83.7	6	85.7	85	94.4	16	94.1	74	75.5
Daily	5	45.5	56	64.4	5	83.3	77	90.6	8	53.3	12	16.7
Monthly	5	45.5	29	33.3	0	0	2	2.4	1	6.7	20	27.8
Semi-Annually	0	0	0	0	0	0	0	0	2	13.3	1	1.4
Other	1	9.1	2	2.3	1	16.7	6	7.1	4	26.7	39	54.2
Service Charges	9	75	88	79.3	7	100	73	81.1	13	76.5	81	81.8
Mean Value of Interest Rate	5.25		5.243		5.25		5.267		5.956		6.126	

Source: Developed by the author.

TABLE 4
TOTAL NUMBER AND SIZE OF BALANCE DISTRIBUTION OF NOW ACCOUNTS

	COMMERCIAL BANKS				*SAVINGS AND LOAN ASSOCIATIONS*				*CREDIT UNIONS*			
	Arizona		*Other*		*Arizona*		*Other*		*Arizona*		*Other*	
	Number	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*	*Number*	*Percent*
Number of Accounts												
Less than $5,000	8	66.7	92	88.5	4	57.1	71	78.9	16	94.1	87	87.9
$5,000-$20,000	2	16.7	10	9.6	2	28.6	17	18.9	1	5.9	12	12.1
$20,000-$50,000	2	16.7	1	1.0	1	14.3	1	1.1	0	0	0	0
More than $50,000	0	0	1	1.0	0	0	1	1.1	0	0	0	0
Average Balance												
Less than $1,000	2	16.7	2	2	0	0	9	10.0	14	82.4	77	79.4
$1,000-$2,000	2	16.7	17	17.2	6	85.7	68	75.6	3	17.6	17	17.5
$2,000-$5,000	4	33.3	53	53.5	1	14.3	12	13.3	0	0	3	3.1
More than $5,000	4	33.3	27	27.3	0	0	1	1.1	0	0	0	0
Mean Value	6102.00		6229.708		1500.00		1716.00		780.333		700.182	

Source: Developed by the author.

tions in the sample states. The mean values of the balances in these accounts indicate large divergence among the types of institutions. Evidence from the introduction of NOWs in New England suggested that these pricing differences might occur. In that experiment, banks set larger minimum balance requirements which resulted in their retaining large balance accounts that are relatively unaffected by the large minimum balances requirements. Only small differences exist between the average balance in the accounts in Arizona institutions when compared with like institutions outside Arizona. The number of accounts and their distribution across institutions in Arizona are similar to the other sample states.

SUMMARY AND CONCLUSIONS

The results of this survey provide several insights into the battle for the NOW account customer by the various types of depository financial institutions in Arizona and the Twelfth Federal Reserve District. Savings and loans appear to be more aggressive in pricing, but banks are slightly more willing to offer NOWs and additional financial services. As a result of regulations, credit unions are offering the most attractive terms on their sharedrafts but do not generally offer the range of services that the other institutions offer. Average balance in NOW accounts is largest in commercial banks, followed by savings and loans, then credit unions.

Institutions in Arizona appear to be a bit more aggressive in offering NOWs and other services and in pricing NOWs than similar institutions in other sample states.

In conclusion, it appears that the competitive battle for the NOW account customer is developing as expected, based on evidence from New England. Savings and loans and credit unions are striving to become full-service family financial institutions and to acquire customers from commercial banks and from each other.

One implication of the pricing policies followed by the institutions surveyed is that savings and loans and credit unions can be expected to gain customers at the expense of commercial banks. Evidence from the survey and earlier studies suggests, however, that the savings and loans and credit unions may gain the smaller balance customers that may be less desirable from a profit perspective. No attempt was made to determine if customers were shifting in large numbers from commercial banks to savings and loans and credit unions.

How these competitive positions of each financial institution will shift as time passes will be of considerable interest. While it is generally believed that the differences between the NOW and sharedraft accounts offered at each institution will narrow, it remains to be seen whether these differences will disappear as depository financial institutions of all types become more homogeneous.

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[1]Donald Basch, "The Diffusion of NOW Accounts in Massachusetts," *New England Economic Review* (November 1976), pp. 20-30; Michele Fernstein, "Advice From Northeast: You Can Live With NOWs Profitably," *ABA Banking Journal* (August 1980), pp. 40-45; Ralph C. Kimball, "Variations in the New England NOW Account Experiment," *New England Economic Review* (November 1980), pp. 23-39.

[2]William N. Cox, "NOW Pricing: Perspectives and Objectives," *Economic Review* (Federal Reserve Bank of Atlanta) (February 1981), pp. 22-25; Michele Fernstein, "Advice From Northeast: You Can Live With NOWs profitably," *ABA Banking Journal* (August 1980), pp. 40-45; Kenneth E. Heich, "How to Evaluate Conflicting Views on NOW Accounts," *Savings and Loan News* (May 1980), pp. 27-32.

[3]Though sharedrafts have been legalized for many years, they are examined in the study because of the fact that they are virtually identical to NOWs and therefore are close substitutes for NOWs.

[4]Cox, "NOW Pricing."

[5]Neil B. Murphy and Lewis Mandell, "Reforming the Structure and Regulations of Financial Institutions: Evidence from the State of Maine," *Journal of Bank Research* (October 1979), pp. 200-212.

[6]Cox, "NOW Pricing."

[7]Studies of the pricing strategies in Massachusetts and New Hampshire suggest that initially these accounts were used as loss leaders by both banks and thrifts [9].

[8]Check truncation is a term used for the practice of stopping the flow of checks through the financial system after they are returned to the customer's bank. This means that the consumer will not receive the cancelled checks. Instead a printed statement of the transactions on that account will be sent to the customer.

[9]B. G. Hartzog, "The Impact of NOW Accounts on Savings and Loan Behavior and Performance," *Quarterly Review of Economics and Business* (Autumn 1979), pp. 97-108.

[10]Donald Basch, "The Diffusion of NOW Accounts in Massachusetts," *New England Economic Review* (November 1976), pp. 20-30; B. G. Hartzog, "The Impact of NOW Accounts on Savings and Loan Behavior and Performance," *Quarterly Review of Economics and Business* (Autumn 1979), pp. 97-108; Ralph C. Kimball, "Variations in the New England NOW Account Experiment," *New England Economic Review* (November 1980), pp. 23-39; Neil B. Murphy and Lewis Mandell, "Reforming the Structure and Regulation of Financial Institutions: Evidence from the State of Maine," *Journal of Bank Research* (October 1979), pp. 200-212.

[11]Ralph C. Kimball, "Variations in the New England NOW Account Experiment," *New England Economic Review* (November 1980), pp. 23-39.

[12]William N. Cox, "NOW Competition: Savings and Loans Start Fast, Banks More Conservative," *Economic Review of Federal Reserve Bank of Atlanta* (April 1981), pp. 27-30.

[13]The credit unions in California were not included in the survey because of the unavailability of the mailing addresses of these institutions within the limited time to complete the study.

[14]Commercial banks and savings and loans nationwide are restricted as to the amount of interest that they are permitted to pay on NOW accounts. Credit unions that are also restricted have generally been allowed to pay higher rates of interest on sharedrafts than those rates allowed on NOWs.

Phoenix Retired Couple's Budget for 1981

ROBERT T. KEIM
SUSAN B. SWIRSLEY

A hypothetical Phoenix area retired couple required $11,488 to maintain a moderate standard of living in 1981. This figure reflects an increase of 5.5 percent over the adjusted 1980 figure for the metropolitan area. The retired couple's budget study was conducted by the Bureau of Business and Economic Research, College of Business Administration at Arizona State University in cosponsorship with Valley National Bank. The budget, which is based on consumption patterns determined by the U.S. Bureau of Labor Statistics (BLS), is directly priced during the fourth quarter of each year.

The retired couple consists of a husband, aged 65 or over, and his nonworking wife. The couple is self-supporting and lives as a separate household in the Phoenix metropolitan area. They are assumed to possess an average inventory of clothing and household goods, and are considered to be in reasonably good health with Medicare providing for most of their medical needs. Of these retired couples, 65 percent own their home mortgage free, while the remaining 35 percent of the couples rent.

The Phoenix Retired Couple's Budget Study is based on the methodology developed by the Bureau of Labor Statistics and described in Bulletins 1570-4 and 1570-6. The contents of the budget, the item specifications, and allowed quantities of each item were set by the BLS in consumer expenditures surveys that determined which goods and services families were actually purchasing at the time of the survey in 1965. The budget provided for a lifestyle described as "an intermediate level of living" for a retired couple in the Phoenix metropolitan area. However, since the BLS has not changed specifications, the items still reflect consumption patterns of the mid-1960s.

It must be emphasized that the budget does not report the average annual expenditure of households, but rather only the amount of income required to purchase a predefined basket of goods held constant over time. The budget study does have considerable consistency: nearly identical goods have been priced each year in the Phoenix metropolitan area. Changes in the year-to-year costs are almost entirely due to changes in prices of the goods and services included, rather than to alterations in the budget composition.

Phoenix is not one of the cities on which the Bureau of Labor Statistics keeps retired couples data. Since 1969, the Bureau of Business and Economic Research has utilized the BLS-developed methodology to report the

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Transportation, Clothing, and Medical Care showed the largest increases in the 1981 Retired Couples Budget. Food, Housing, and Personal Care showed the smallest increases.

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budget figures for a hypothetical Phoenix retired couple at an intermediate level. These data are collected by direct pricing of the specified consumer goods and services. On the other hand, BLS studies for other cities merely update their 1969 direct prices by components of the Consumer Price Index (CPI). Because of this difference in methodology, these figures cannot be accurately compared to those issued by the Bureau of Labor Statistics for other cities.

DETAILED ANALYSIS OF BUDGET COSTS

The largest increases in the 1981 Retired Couple's Budget occurred in *Transportation* (12.9 percent), *Clothing* (11.1 percent), and *Medical Care* (8.2 percent). All other categories showed increases of less than 5.0 percent, with the exception of gifts and contributions (in the category of *Other Items)* which showed a rise of 5.7 percent. Table 1 depicts a comparison of all major categories of the Phoenix area budget for 1980 and 1981.

The *Housing* category is the major component, with 32.9 percent of the total budget. As mentioned earlier, the Bureau of Labor Statistics assumes 65 percent of the couples own their home mortgage free, thus their only Housing expenses are utilities, appliances, home insurance, property taxes, and repair costs. Renter costs are comprised of monthly rent for an unfurnished one or two bedroom apartment or single-family dwelling, utility costs, kitchen appliances, and insurance for household contents.

Average monthly rent, based on a survey of 250 renter dwellings in the Phoenix area, was $294. This represents an increase of 5.2 percent over the 1980 average rent. This figure, coupled with other renter costs, led to an overall increase of 4.3 percent.

Homeowner costs decreased by 1.1 percent. This decrease can be attributed to a decrease of 8.1 percent in property taxes, coupled with a 6.7 percent decrease in the cost of natural gas. The offsetting factor was a 5.0 percent increase in electricity costs. Overall in 1981, the hypothetical retired couple paid 3.8 percent more for Housing than in 1980.

The category of *Food,* a significant contributor to the Retired Couple's Budget with 28.9 percent of the total budget allocated to it, increased only 3.4 percent. This category can be subdivided into two areas — Food At Home and Food Away From Home. Food At Home, the larger portion of the budget, increased 4.1 percent, but Food Away From Home decreased 2.7 percent. A moderating factor in food costs was the elimination of the 4.0 percent state sales tax on food items, a tax which was in effect during the first half of 1980.

Transportation costs (11.2 percent of the total budget) increased by 12.9 percent, the largest percentage increase of any major category in 1981. This increase was largely due to two substantial increases for automobile owners: the purchase price of an automobile, which rose 23.2 percent, and the use of public transportation, which increased 20.0 percent. Nonauto-owners, relying primarily on taxis and buses, paid 13.8 percent more for Transportation in 1981 as compared to 1980. A large increase in bus fares was partially offset by a 3.3 percent decrease in taxi fares.

Medical Care (8.6 percent of the total budget) increased 8.2 percent in 1981. This increase is characterized by rises of 5 to 11 percent in all areas of health care, and a jump of 16.7 percent in nonprescription drug prices.

Clothing costs, after showing a decrease in 1980, increased 11.1 percent in 1981. Both men's and women's clothing costs were up approximately 12 percent. This category is a relatively minor portion (4.4 percent) of the total budget.

The comparisons of the 1980 and 1981 distribution of budget expenditures are shown in Table 2. No significant change in the budget allocation was noted between 1980 and 1981.

TABLE 1

METROPOLITAN PHOENIX
RETIRED COUPLE'S BUDGET
PERCENTAGE CHANGE: 1980-1981

Category	*1981*	*1980 Revised*	*Percentage Change*
TOTAL BUDGET	$11,488	$10,893	5.5
Total Family Consumption	10,799	10,240	5.5
Food	3,307	3,197	3.4
Housing	3,776	3,638	2.7
Transportation	1,282	1,136	12.9
Clothing	509	458	11.1
Personal Care	407	394	3.3
Medical Care	992	917	8.2
Other Family Consumption [a]	526	500	5.2
Other Items [b]	688	653	5.4

Note: Details may not add due to rounding.

[a] Other Family Consumption includes reading materials, recreation, tobacco, alcoholic beverages, and miscellaneous expenses.

[b] Other Items include gifts and contributions.

Source: Phoenix data are compiled by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

TABLE 2
METROPOLITAN PHOENIX
RETIRED COUPLE'S BUDGET
PERCENTAGES OF TOTAL BUDGET
AUTUMN, 1981 AND AUTUMN, 1980

Category	*Autumn, 1981 Percentage of Total Budget*	*Autumn, 1980 Percentage of Total Budget (Revised)*
TOTAL BUDGET	100.0	100.0
Total Family Consumption	94.0	94.0
Food	28.9	29.3
Housing	32.9	33.3
Transportation	11.2	10.4
Clothing	4.4	4.2
Personal Care	3.5	3.6
Medical Care	8.6	8.4
Other Family Consumption [a]	4.6	4.6
Other Items [b]	6.0	6.0

Note: Details may not add due to rounding.
[a] Other Family Consumption includes reading materials, recreation, tobacco, alcoholic beverages, and miscellaneous expenses.
[b] Other Items include gifts and contributions.
Source: Phoenix data are compiled by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

SUMMARY

The total budget increase in the 1981 Retired Couple's Budget for the Phoenix metropolitan area was 5.5 percent, a considerable drop from the 1980 increase of 8.0 percent. This increase is less than the increase measured by the Urban Family of Four Budget for the same time period, largely because of the assumptions that the retired couple's home is mortgage free, and that the retired couple does not pay Social Security or income taxes; both mortgage payments and payroll taxes increased a substantial amount in the 1981 Urban Family of Four Budget.

Arizona Business Scene

Tourist Attractions in Arizona

Arizona is blessed with a wide range of scenic and historic attractions, many of which are strictly nature's doing, while others were created by such peoples as the ancient Indians and early Spanish and American settlers. These attractions are a primary reason for the large number of tourists that are attracted to Arizona. They also contribute to the decision by many of these visitors to relocate to Arizona permanently.

The latest tourism study by the ASU Bureau of Business and Economic Research reports that for fiscal year 1979-1980, approximately 14.7 million out-of-state visitors came to Arizona, spending an estimated three billion dollars. Most of these visitors (12.9 million) traveled by highway and nearly 40 percent noted "vacation/touring" as the purpose of their visit.

In terms of major activities while in Arizona, 87 percent of these highway tourists did sightseeing, 59 percent visited historic sights, 22 percent went camping, and 17 percent went hiking or backpacking. Although airline visitors (approximately 1.8 million people) came to Arizona primarily for other reasons than "vacation/touring," 79 percent still went sightseeing and 35 percent visited historical sites. Although it is not possible to derive the portion of the total $3 billion in tourism expenditures spent on these activities, it is clear from the magnitude of these activity figures that at least indirectly these activities relating to Arizona's natural tourist attractions were a major factor in the out-of-state tourist expenditures.

These points of interest, of course, are visited not only by out-of-state tourists. Many of them are heavily used by Arizona residents as well, providing nearby recreation, sightseeing, and educational opportunities.

Many of the natural attractions in Arizona are administered by governmental units. The Arizona State Parks System includes seventeen state parks and historic sites. The National Park Service has twenty-one sites in Arizona including national parks, national monuments, recreation areas, and historic sites. There are seven national forests within Arizona with numerous recreation sites including lakes, streams, campgrounds, and hiking trails. Seven wilderness areas are included in these forest lands. (The U.S. Forest Service owns 16 percent of Arizona's land.) The Bureau of Land Management also administers a large portion of Arizona's land (17 percent) which includes many recreational sites. Additionally, there are other attractions on private land and on Indian reservation land.

Natural attractions exist in virtually every area of the state, from the low desert along the Colorado River, through the high mountains of the central areas of the state, to the high plateau lands of the Navajo Reservation. Diverse variation in the types of attractions: natural attractions include lakes, rivers, deserts, canyons, mountains, craters, caves, natural bridges, snow; attractions created by early peoples include centuries old Indian ruins, 200-year-old missions, and century old cowboy, army, and mining relics.

Of the sites that maintain visitor counts (Tables 1 and 2), Lake Mead National Recreational Area receives the most visitors —more than 5 million in each of the last three years. It is located in the northwest corner of

TABLE 1
ATTENDANCE AT NATIONAL PARK SERVICE AREAS
(in thousands)

	Fiscal Year 1979-1980	1980-1981	1981-1982
Canyon De Chelly National Monument	662	724	773
Casa Grande Ruins National Monument	108	105	106
Chiricahua National Monument	48	50	54
Coronado National Memorial	55	50	51
Fort Bowie National Historic Site	6	5	5
Glen Canyon National Recreation Area	1776	1772	1726
Grand Canyon National Park	2414	2764	2529
Hubbell Trading Post National Historic Site	96	120	198
Lake Mead National Recreation Area	5672	5376	5573
Montezuma Castle National Monument	395	457	457
Navajo National Monument	84	68	72
Organ Pipe Cactus National Monument	144	180	157
Petrified Forest National Park	674	715	733
Pipe Spring National Monument	25	28	28
Saguaro National Monument	599	506	913
Sunset Crater National Monument	306	352	358
Tonto National Monument	60	71	71
Tumacacori National Monument	58	56	61
Tuzigoot National Monument	73	80	82
Walnut Canyon National Monument	74	81	84
Wupatki National Monument	168	182	183
TOTAL	13,497	13,742	14,214

Source: U.S. Department of the Interior, National Park Service.

TABLE 2
ATTENDANCE AT ARIZONA STATE PARKS
(in thousands)

	Fiscal Year 1979-1980	1980-1981	1981-1982
Alamo Lake	58	56	56
Boyce Thompson Arboretum	79	83	81
Buckskin Mountain	237	199	121
Dead Horse Ranch	18	31	27
Fort Verde Historic	21	25	29
Jerome Historic	124	137	131
Lake Havasu	962	960	937
Lost Dutchman	119	131	62
Lyman Lake	88	30	26
McFarland Historic	2	3	4
Painted Rocks Historic	14	14	12
Patagonia Lake	161	150	141
Picacho Peak State Park	194	149	110
Roper Lake State Park	51	57	72
Tombstone Courthosue Historic	63	62	63
Tubac-Presidio Historic	24	26	28
Yuma Territorial Prison Historic	139	143	154
TOTAL	2,354	2,256	2,054

Source: Arizona State Parks Board.

the state and is shared with Nevada. On the opposite side of the state, and shared with Utah, is the Glen Canyon National Recreation Area which includes Lake Powell. It has received more than 1.7 million visitors in each of the last three years. The attraction for which the state is best known, the Grand Canyon National Park, has received approximately 2.5 million visitors in each of the last three years.

Several other attractions draw visitors numbering in the hundreds of thousands per year. These include Lake Havasu State Park on the Colorado River; Petrified Forest National Park in northeastern Arizona; Canyon de Chelly National Monument, a canyon area on the Navajo Reservation; Saguaro National Monument, which is a large desert area both east and west of Tucson; Montezuma Castle National Monument, the ancient Indian cliff dwellings in north central Arizona; Sunset Crater National Monument, an extinct volcano with lava flows near Flagstaff; and Buckskin Mountain State Park, on the Colorado River south of Lake Havasu.

A Survey of Arizona Business Conditions

HAROLD FEARON

AUGUST

The economic downslide continued even further in August, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. All indicators of activity (with the exception of prices, which inched up a bit) were negative. Inventory levels of purchased materials, new orders received, production, and employment all continued to experience large declines. One slight glimmer of hope in the August figures is that the declines were slightly less than those of July. However, the bottom of the recession has not yet been reached and further declines will occur over the next few months. In short, we are not out of trouble yet and won't be for some time.

The purchasing business survey now is in its twentieth year of consecutive monthly reporting on the current status of the Arizona economy. Data are gathered through a questionnaire sent at the close of each month to purchasing managers throughout the state, asking them to indicate the direction of activity — higher, unchanged, or lower — on six key indicators of economic activity in the month just ended. Since these purchasing managers deal daily with the forces of supply and demand, they are able to provide timely and accurate information on current business trends, which enables economic turning points to be spotted.

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Prices paid for purchased materials increased slightly in August, with higher prices reported by 21 percent of the purchasing managers; 62 percent said prices were unchanged; and 17 percent paid lower prices in August than in July. This marks the sixth consecutive month of essentially stable prices, which is by far the longest period without upward price pressures in close to twenty years (since the end of 1962). Certainly, at this point the economy is facing much more serious problems in the areas of production and employment than in restraining inflation.

Delivery time on shipments from vendors contracted again, for the tenth month in a row, although the decline was quite small. Sixteen percent saw a stretch-out in delivery times, but a somewhat larger 21 percent got faster vendor deliveries. In all probability, vendors now have worked off most of their excessive stocks, and they now can't turn on a dime when they receive orders.

Inventory levels of purchased materials continued to drop, for the eighteenth consecutive month. The inventory reductions began in February, 1981, and still are taking place in major proportions. The August drop was the third largest so far this year, with 15 percent adding to inventory, while a very large 50 percent cut stocks. At some point — and it has been anticipated for several months now — inventory levels will bottom out, setting the stage for the turnaround, but it hasn't happened yet.

New orders received from customers dropped again in August, but at a slightly lower rate than in the previous two months. Twenty-five percent said their firm booked more new business in August than in July,

but a substantially larger 43 percent saw their order books shrink. This was the thirteenth consecutive drop in the new order rate, and shows that incoming business continues very soft.

Production also fell, almost exactly in line with the drop in the new order rate. Higher output was reported by 20 percent of the firms, which was only about half the 39 percent who reduced operating rates. This was the eleventh consecutive monthly decline in output.

Employment registered another major drop, the fifteenth in a row. Thirteen percent added to their work force, but three times that percentage — 42 percent —pared payrolls. While the decrease rate was quite large by past standards, it was somewhat less than in July and the smallest net change in the past five months.

Thus, August's economic performance was discouraging, to say the least. The long-awaited recovery seems to be a long time in coming, and August saw a continuation of the steep economic decline, showing that we are far from being out of the economic woods. The results of the August purchasing survey are shown in Table 1.

TABLE 1

AUGUST PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (August compared to July)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	21	62	17
Delivery time from vendors	16	63	21
Purchased materials inventory level	15	35	50
New orders received	25	32	43
Production	20	41	39
Employment	13	45	42

Source: Purchasing Management Association of Arizona, and the Purchasing Management Association of Southern Arizona.

SEPTEMBER

The economy continued to deteriorate still further in September as it reaches for the long-awaited bottom of the current recession, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. All indicators of economic activity declined, but the decrease rate on each indicator was less in September than in August. This is the second consecutive month in which the rate of decline has been smaller, which shows that the recessionary downswing is slowing somewhat. However, the bottom still has not been reached. There still is no forward momentum, and the recovery is not yet underway.

Prices paid for major purchased items were flat in September, with higher prices reported by 16 percent of the purchasing managers; 68 percent said prices were unchanged; and 16 percent paid lower prices in September than in August. This was the seventh consecutive month of essentially stable prices and provides firm evidence that the inflationary pressures have been defused, at least for the present. The absence of upward price pressures bodes well for a period of sustainable growth once the economic turnaround starts.

Delivery time on shipments from vendors shortened for the eleventh month in a row, but the drop was less than in August. Eighteen percent saw a lengthening of vendor delivery times, while 22 percent received faster vendor deliveries. The lead-time indicator has been essentially flat for five months now, showing that vendor operating rates have stabilized over the summer, although at a relatively low level. This signifies that the Arizona economy is reaching for a bottom which, when reached, will set the stage for the turnaround.

Inventory levels of purchased materials dropped again, for the nineteenth consecutive month. Higher inventories were reported by 23 percent of the firms, but a much larger 43 percent cut their stocks. However, the rate of inventory decrease was the smallest in eight months (since last January), and only half that of June and July. Hopefully, the paring of inventory soon will end, which will then trigger an increase in production to meet demand.

New orders received from customers dropped again in September, for the fourteenth month in a row. Twenty-eight percent said their firm booked more new business in September than in August, but nearly double that — 40 percent — saw their order books shrink. The rate of decrease has declined in each of the past four months, which is an encouraging sign, although incoming business still continues to be very slow.

Production fell again, for the twelfth straight month. Higher output was reported by 22 percent; 40 percent reduced their operating rate. The drop in production was slightly less than that of August and the lowest net decrease rate in the past six months.

Employment levels were chopped again, for the sixteenth month in a row, as Arizona firms adjust their work force downward in the face of very soft demand.

Yet the September decrease was less than in August and the smallest in the past six months. Sixteen percent added employees, compared to the much larger 39 percent who pared payrolls.

Thus, September saw an overall economic performance that could only be described as "more of the same." The only bright spot is the price stability now being enjoyed — all other economic indicators turned in discouraging results. However, the rate of decine has moderated for the second month in a row, and the economic turnaround should be evident in the next few months.

The results of the September purchasing survey are shown in Table 2.

TABLE 2
SEPTEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (September compared to August)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	16	68	16
Delivery time from vendors	18	60	22
Purchased materials inventory level	23	34	43
New orders received	28	32	40
Production	22	38	40
Employment	16	45	39

Source: Purchasing Management Association of Arizona, and the Purchasing Management Association of Southern Arizona.

Metropolitan Phoenix Consumer Price Index

THIRD QUARTER, 1982

Prices of goods and services in the Phoenix metropolitan area increased only 1.0 percent during the third quarter of 1982. This was slightly higher than the 0.5 percent increase of the previous quarter. Over the past year the increase in Phoenix metropolitan area prices has been only 5.4 percent, the lowest yearly increase since the fourth quarter of 1976.

The Consumer Price Index (CPI) for the Phoenix metroplitan area, on which these inflation figures are based, is prepared by the Bureau of Business and Economic Research, College of Business Administration at Arizona State University. The quarterly CPI is based on comprehensive surveys conducted by the Bureau in cooperative cosponsorship with Valley National Bank.

The category of *Food* rose very slightly in the third quarter, increasing only 0.2 percent, down from the 1.2 percent increase in the second quarter of 1982. Food Away From Home increased by 0.6 percent, while Food At Home showed only a negligible increase of 0.1 percent. The largest increase was found in Meats, Poultry, Fish, and Eggs, which rose 2.0 percent. Smaller increases were noted in Dairy Products (0.5 percent), and Cereal and Bakery Products (0.1 percent). Decreases were seen in Other Food At Home (-0.8 percent), and Fruits and Vegetables (-2.7 percent).

In the subcategory of Meats, Poultry, Fish, and Eggs, pork increased 8.1 percent, spurred largely by increases in ham other than canned (11.6 percent) and bacon (10.9 percent); poultry increased 5.8 percent; other meats increased 1.4 percent, while beef prices increased by only 0.2 percent. These increases were partially offset by a large decline in egg prices (-9.0 percent), and a smaller decline in prices for fish and seafood (-2.1 percent).

Fresh milk (other than whole) and cream increased 3.0 percent. The subcategory "dairy products other than butter, cheese and ice cream" declined 2.7 percent, however, to help give Dairy Products an overall increase of 0.5 percent, continuing the trend of very small price increases in recent quarters. Cereal and Bakery Products again showed very little overall increase this quarter. Cereal and cereal product prices increased by 2.8 percent, but bakery products declined by 0.9 percent, a decline led by fresh sweetrolls, coffeecakes, and doughnuts (-8.2 percent).

A decline in nonalcoholic beverage prices of 3.3 percent, caused largely by a decrease in the price of cola drinks other than diet cola (-12.7 percent) was the major factor in the overall decline in Other Food At Home. Increases were noted in salads, desserts, and baby food (4.7 percent), carbonated drinks, excluding non-dietary cola (4.1 percent), other condiments (3.8 percent), and olives, pickles and relishes (3.6 percent).

Fresh fruit prices rose by 3.8 percent, while fresh vegetables plunged 16.3 percent. Despite the continued rise in fresh fruit from last quarter, fresh fruit prices are still 2.5 percent lower than one year ago. Fresh vegetable prices continue to decline, and are 17.3 percent below the prices of one year ago.

The category of *Housing* showed no change for the third quarter of 1982. This is a continuation of the

downward trend which began in the fourth quarter of 1980. The subcategories of Shelter, Fuel and Other Utilities, Household Furnishings and Operations, combine to make up the category of *Housing*. A decrease in Shelter costs (-0.8 percent) was offset by increases in Fuel and Other Utilities (2.3 percent) and Household Furnishings and Operations (2.0 percent). The subcategory of Shelter has shown a decrease for two consecutive quarters. The decrease of -0.8 percent this quarter was largely due to a 1.3 percent decrease in Homeownership costs. This was offset in part by a 1.4 percent increase in Residential Rent. In turn, the decrease in Homeownership costs was caused by a decrease in the subcategory Homeowners' Financing, Taxes and Insurance (-1.4 percent). Mortgage rates declined 7.4 percent, the second consecutive quarterly decrease. Home prices increased a moderate 1.7 percent. Under the subcategory of Fuel and Utilities, increases in Fuels (2.9 percent) and Gas and Electricity (4.4 percent) caused the overall increase of 2.3 percent. Gas and Electricity prices are 26.0 percent higher than one year ago, including an increase of 42.1 percent in utility gas. These third quarter increases were slightly offset by a decrease of 0.4 percent in Other Utilities and public services.

The subcategory of Household Furnishings and Operations increased 2.0 percent. This was primarily due to increases in furniture (10.1 percent), household appliances (3.9 percent), housekeeping supplies (3.0 percent) and housekeeping services (2.2 percent).

Apparel and Upkeep showed a slight decrease of 1.0 percent after a 3.5 percent gain in the previous quarter. A decrease in Men's and Boys' Apparel (-1.3 percent) was accompanied by a decrease in Women's and Girls' Apparel (-1.4 percent) and Footwear (-1.8 percent).

Transportation costs in the Phoenix area increased 2.2 percent in this quarter, following two quarters of small decreases. Private Transportation costs increased 1.8 percent, led by a 3.3 percent increase in used car prices and a 4.4 percent increase in gasoline prices, primarily in the early part of the quarter. New car prices rose by only 0.4 percent. These increases were offset by price decreases in vehicle parts and equipment (-2.0 percent), vehicle maintenance and repair costs (-0.9 percent), and vehicle finance charges (-1.1) percent). Public Transportation posted a large price increase of 10.2 percent following a comparatively large decrease last quarter; a rise of 12.2 percent in airline fares was primarily responsible.

Medical Care costs in the Phoenix metropolitan area rose 8.5 percent, a large increase over last quarter and a 17.9 percent increase over last year. The major contributing factor in this increase was the higher cost of health insurance (21.2 percent). The costs of prescription and nonprescription drugs rose by 2.0 percent and 4.8 percent respectively. A large increase was also noted in the cost of hospital and other medical care services (8.5 percent). Professional services showed a modest increase of 0.8 percent as physicians' services fell by 1.6 percent, partially offsetting the increase in costs for dental services (2.6 percent).

Entertainment costs rose 1.5 percent in the third quarter. Increases were noted in admissions, fees, other entertainment services (3.1 percent) and toys and hobbies (0.4 percent).

Other Goods and Services increased by 1.8 percent. Price increases were noted in school books and supplies (5.8 percent); cosmetics, bath and nail preparations (5.8 percent); and other toilet goods (5.7 percent).

In general, the quarterly increases in the Metropolitan Phoenix Area are comparable to those of Chicago, Los Angeles, and the United States. The United States posted the largest increase of 2.0 percent, followed by Chicago (1.9 percent) and Los Angeles (0.7 percent). Phoenix continued to show the largest quarterly increase in *Medical Care* (8.5 percent) as compared to Los Angeles (3.4 percent), and the United States and Chicago (2.9 percent).

The percentage change in *All Items* from one year ago in Phoenix (5.4 percent) is less than that of the United States (5.6 percent) and Chicago (5.9 percent) but greater than Los Angeles (4.9 percent). The one-year increase in the Phoenix metropolitan area has been larger than in the comparison cities in the categories of *Apparel and Upkeep, Medical Care,* and *Entertainment.* However, in the category of *Transportation* the increases over the past year in Phoenix have been less than in the comparison areas.

METROPOLITAN PHOENIX CONSUMER PRICE INDEX
THIRD QUARTER, 1982
(1977=100)

Group	Last Qtr. Index	This Qtr. Index	Percentage Change	Year Ago Change	1969 Base Index
ALL ITEMS	168.9	170.6	1.0	5.4	265.2
Food and Beverages	154.0	154.7	0.4	3.6	241.8
Food	154.8	155.2	0.2	3.2	246.7
Food at Home	155.1	155.2	0.1	3.1	257.6
Cereals and Bakery Products	156.8	156.9	0.1	3.0	255.5
Meats, Poultry, Fish, and Eggs	154.8	157.9	2.0	5.8	251.2
Dairy Products	149.5	150.2	0.5	2.3	226.7
Fruits and Vegetables	155.3	151.0	-2.7	-2.0	260.6
Other Food at Home	146.5	145.4	-0.8	3.3	281.6
Food Away From Home	151.8	152.7	0.6	3.5	224.4
Housing	187.8	187.9	0.0	5.2	272.0
Shelter	204.8	203.2	-0.8	3.2	282.2
Rent, Residential	142.8	144.8	1.4	6.7	195.8
Homeownership	227.1	224.1	-1.3	2.4	299.4
Homeowners' Financing, Taxes & Insurance	234.1	230.7	-1.4	1.9	0.0
Mortgage Interest Rates	190.6	176.6	-7.4	-9.2	0.0
Home Purchase	192.0	195.2	1.7	6.4	0.0
Fuel and Other Utilities	154.1	157.6	2.3	17.3	314.1
Gas & Electricity	178.6	186.4	4.4	26.0	0.0
Household Furnishings and Operations	138.3	141.0	2.0	6.0	218.6
Apparel and Upkeep	134.5	133.2	-1.0	7.4	194.3
Transportation	161.1	164.7	2.2	2.2	274.4
Private Transportation	159.1	161.9	1.8	2.4	269.8
New and Used Cars	152.8	155.6	1.9	11.0	0.0
Gasoline	200.3	209.1	4.4	-6.9	0.0
Public Transportation	197.1	217.2	10.2	-2.4	351.2
Medical Care	165.3	179.3	8.5	17.9	394.9
Entertainment	152.6	154.9	1.5	6.9	225.5
Other Goods and Services	137.1	139.6	1.8	7.6	251.0

A 0.0 in the last column indicates that 1969 base index is not available.

UNITED STATES AND COMPARATIVE CITIES

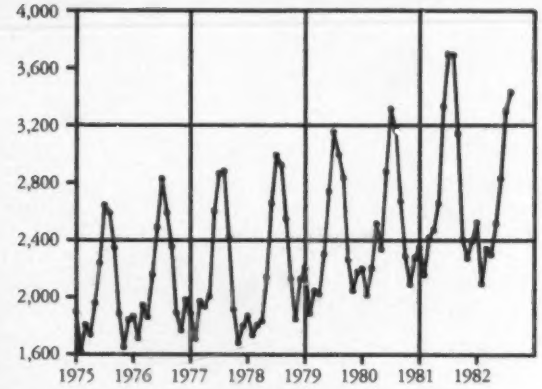
	United States		Chicago		Los Angeles	
Group	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago
ALL ITEMS	2.0	5.6	1.9	5.9	0.7	4.9
Food	0.7	3.5	-0.3	2.0	1.0	4.4
Food at Home	0.4	2.8	-0.6	1.3	0.0	2.9
Food Away From Home	1.3	4.9	0.3	3.3	2.9	7.1
Housing	2.0	6.4	2.4	8.9	-0.3	4.1
Shelter	2.2	6.5	2.4	10.2	0.1	4.1
Fuel and Utilities	3.1	8.0	6.5	7.6	-0.2	15.5
Household Furnishings and Operations	0.0	4.5	-1.4	3.3	-2.5	9.7
Apparel and Upkeep	0.2	2.3	0.6	0.2	-1.4	-4.3
Transportation	3.6	4.2	3.0	3.2	3.0	6.8
Medical Care	2.9	10.2	2.9	7.7	3.4	11.2
Entertainment	1.3	6.4	1.5	5.8	-2.5	2.1
Other Goods and Services	1.3	8.8	0.8	6.4	2.3	7.2

Source: Metropolitan Phoenix data compiled by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University, in cooperative cosponsorship with Valley National Bank; other data from U.S. Department of Labor, Bureau of Labor Statistics.

Arizona Economic Indicators

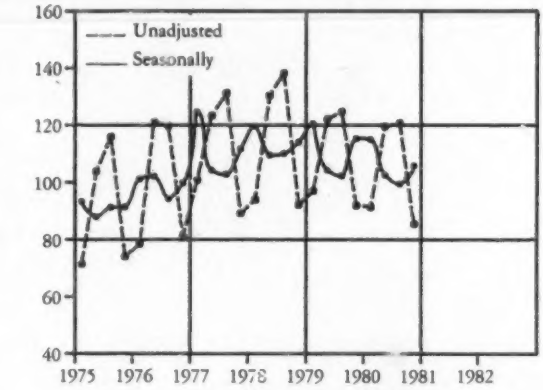
Millions KWH

ELECTRICAL POWER SALES
(Monthly)



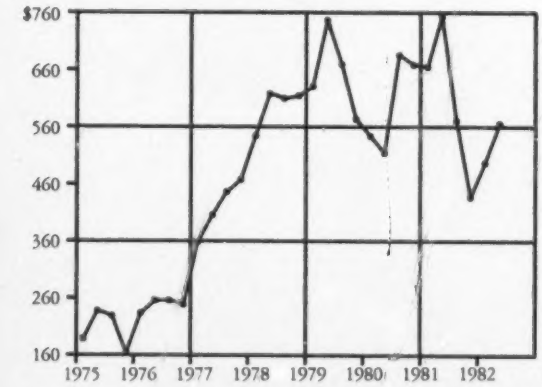
ARIZONA TOURISM INDEX

1976=100



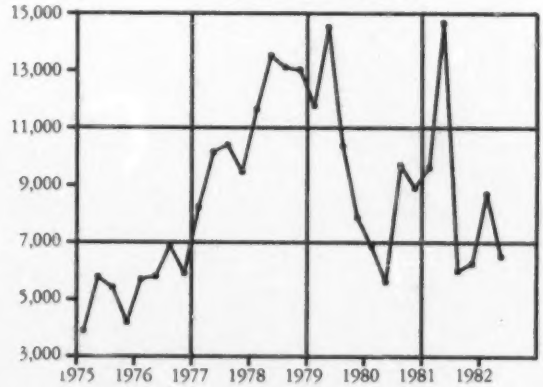
ARIZONA BUILDING PERMITS
(Quarterly)

Millions



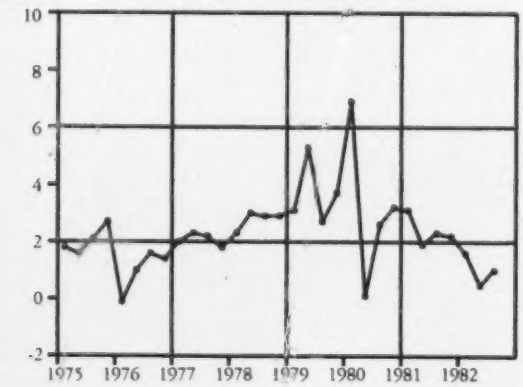
ARIZONA NEW HOUSING STARTS
(Single Family, Quarterly)

Numbers



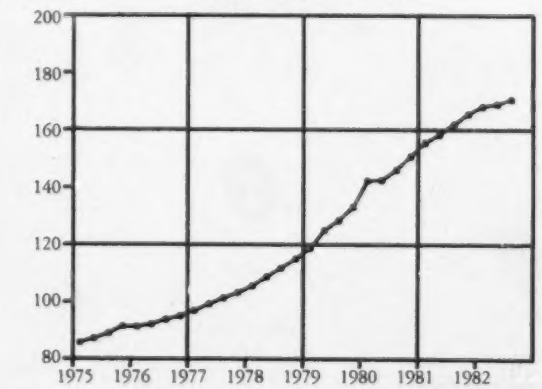
QUARTERLY CHANGE IN
METROPOLITAN PHOENIX CPI

Percent



METROPOLITAN PHOENIX
CONSUMER PRICE INDEX

1977=100



Source: All data compiled by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University

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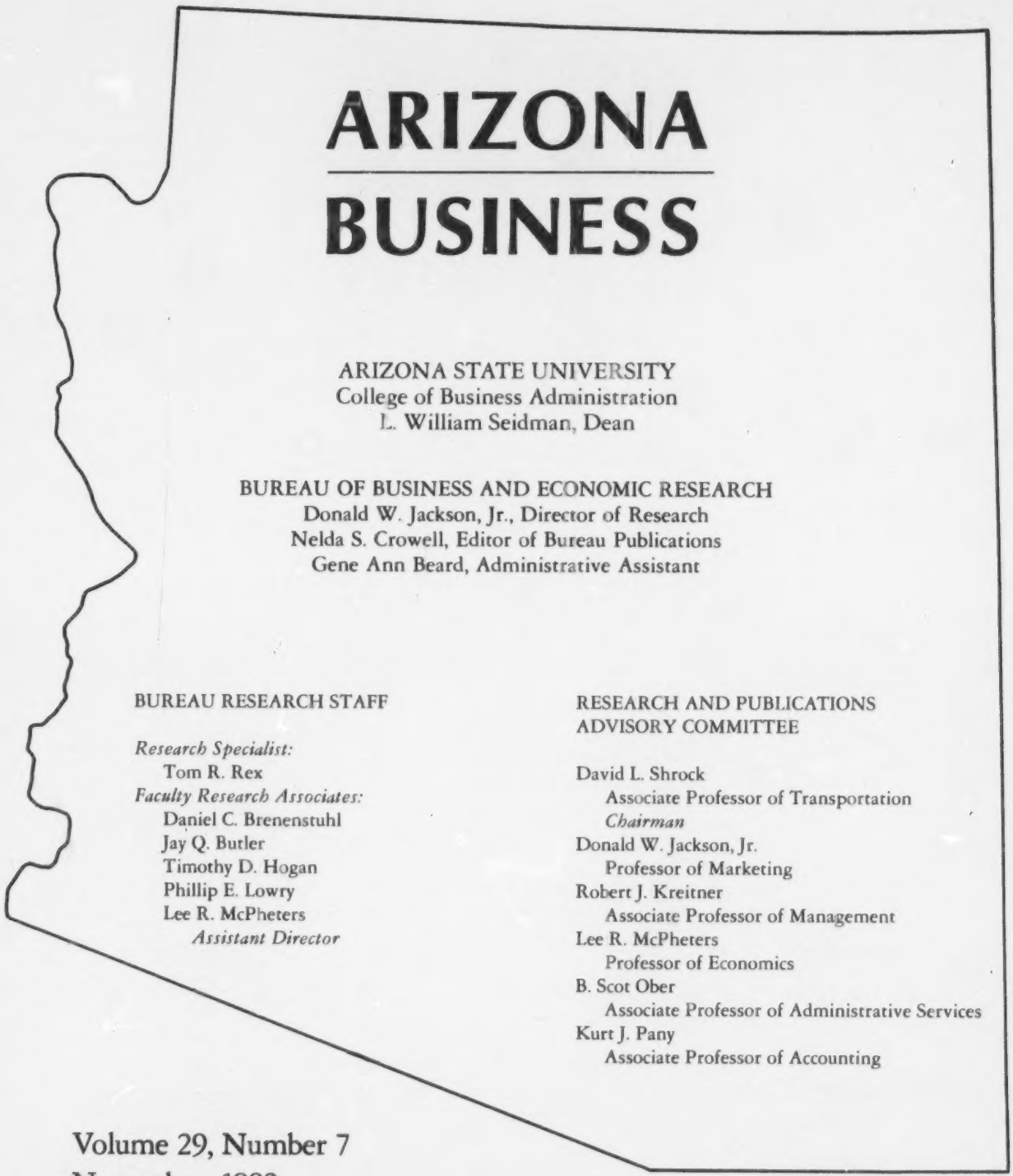

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Report To The Reader

Two articles in this issue of *Arizona Business* deal with the subject of housing, reflecting the importance of that sector on the Arizona economy.

The "Arizona Business Scene," on page 19 reveals the recent census data pertaining to housing. Among the more significant facts are the data on the mobility of Arizonans. According to the census, 20 percent of all Arizona homeowners made a housing move during the fifteen months prior to the April 1, 1980 census. Furthermore, an additional 33 percent had moved between 1975 and 1978, meaning that over half of all homeowners had moved in the five years preceding the census. Recent economic conditions have very likely reduced that proportion, indicating the kind of pent-up demand that may be building toward the time when conditions are more conducive to changing residence.

In his report on construction activity for the third quarter of 1982, Dr. Jay Q. Butler points out that new home sales activity is down considerably compared to a year ago. "In order to sustain a housing recovery, the resale market must improve to allow the 'move-up' market to expand," he says. Resale home sales, however, were very comparable to their level of last year.

The real news is in multifamily housing, where permits more than doubled over the previous quarter and nearly quintupled over the same time the previous year. At the same time, the vacancy picture also brightened, a predictable occurrence at this time of year, with only 5 percent vacant compared to 11 percent the previous quarter.

According to Dr. Butler, "The single-family sector is finally expected to show significant improvement through 1983, the main stimulus being lower interest rates allowing for some satisfaction of pent-up demand."

He adds, however, that, "before buying any residence (whether it be a new home or a resale home), consumers must feel relatively secure about their economic future. This future is affected by actual employment, general economic conditions, rumored layoffs, and income levels. Also the purchase of any home tends to require dual incomes in a household. Hence the feeling of economic security must apply to both husband and wife," he concludes.

Arizona Birth Rates in the 1970s and 1980s

STEPHEN K. HAPPEL

In a fast-growing state like Arizona, population shifts are important for understanding the dynamics of the state's economy.[1] Recent articles by Happel, Hogan and Dandoy in *Arizona Business* focused particularly on birth rates and the possibility of a baby boom occurring in Arizona in the 1980s. The purpose of this article is to update and extend that information with 1980 census data and with Arizona Department of Economic Security projections utilizing the 1980 census.

The first section reviews changes in the age composition of the United States from 1970 to 1980 and discusses estimates of the changes that can be expected between 1980 and 1990. These changes are then related to the Arizona population. Next, recent birth rate data for Arizona are examined and the future direction of birth rates in the state is considered. Finally, detailed county data are provided to gain a further understanding of growth and change within the state over the next ten years. These data include population totals and growth rates, racial and age composition, percentage of rural population, and the 1980 crude birth rates.

From 1970 to 1980, the largest population increase in Arizona occurred in the 20-34 age group. The most important demographic change of the 1980s, however, will be the declining number of 15 to 24 year olds. Also notable is the relative decline expected in older adults age 55-64.

Stephen K. Happel is Associate Professor of Economics in the College of Business Administration, Arizona State University.

AGE STRUCTURE SHIFTS IN THE UNITED STATES AND ARIZONA: 1970 to 1990

The age composition of a population influences the type of goods produced, the nature of labor markets, the extent and make-up of social services, and voting strength of particular age groups. For example, much of contemporary life in the United States has been shaped by the postwar baby boom. Table 1 presents age structure changes for the United States from 1970 to 1980 and from 1980 to 1990.

From 1970 to 1980, the foremost change was a marked decline in the number of children and young teenagers. This age group — the under-15 age category — showed a reduction of nearly 14 percent, a startling reflection of the low birth rates of the 1960s. On the other hand, there was a significant increase in the number of young adults in the 18-34 age groups as the children of the postwar baby boom began to mature. The 55-and-over age groups also increased significantly, reflecting the high birth rates prior to 1925.

For the period from 1980 to 1990, the 10.6 percentage increase in children under 15 is an estimate and the actual value will differ, depending on the child-bearing patterns of current young adults. Other data for this period are also estimates, but are likely to be more accurate. Perhaps the most important demographic

TABLE 1

PERCENTAGE INCREASES IN THE U.S. POPULATION BY AGE GROUPS: 1970-1980 and 1980-1990

	1970-1980	*1980-1990*
Under 15	-13.8	10.6 *(estimated)*
15-17	3.4	-20.1
18-24	22.5	-14.6
25-34	45.4	13.5
35-44	11.3	42.4
45-54	-2.2	11.5
55-64	14.0	-1.9
65 and over	25.6	19.6

Source: William Freud, "The Looming Impact of Population Changes," *The Wall Street Journal*, April 6, 1982.

change of the 1980s will be the declining numbers of 15-to-24-year-olds. Thus, in contrast to the 1970s, large numbers of young adults will not be flooding into job markets and colleges. Instead, U.S. labor markets will become top heavy with the aging postwar baby boom generation, and the demand for young workers is likely to be high relative to their supply. In the process, many firms will scramble to attract and hold onto younger employees, some colleges and universities will face an enrollment crunch, and U.S. birth rates may swing in new directions.[2]

These national age patterns also appear in Arizona, as seen in Table 2.[3] Since inmigration plays such a large role in the state's population growth compared to the country as a whole, the *absolute* percentage increases in each age group are difficult to interpret when trying to assess *relative* change. Therefore, Table 2 also reports *growth indexes* for the various age groups, where the growth index for any age group is the percentage increase for that age group divided by the overall growth rate for the state.

For the period 1970-1980, Arizona's population as a whole grew approximately 52 percent. However, the under-15 age group increased considerably slower at just 19.7 percent. These values generate a growth index of .38, meaning the under-15 age group grew only 38 percent as fast as the total Arizona population. On the other hand, the age groups that showed the greatest relative increases in Arizona from 1970 to 1980 are the young adults age 20-34 and the older adults age 55 and over. For example, the 25-34 age group grew nearly twice as fast (index of 1.98) as the total Arizona population. Growth in these age groups is partially a reflection of national trends in age structure and partially the result of younger adults and adults 55 and over migrating to Arizona.

The 1980 to 1990 values have been produced by the Arizona Department of Economic Security's forecasting model.[4] Most apparent is the expected relative decline in people in their early twenties (the 20-24 age group) combined with the sharp increase in middle-aged adults (the 35-44 age group.) Like the country as a whole, Arizona's population in the 1980s will become top-heavy with individuals born in the postwar baby boom.

TABLE 2

PERCENTAGE CHANGE IN ARIZONA AGE GROUPS: 1970 to 1980 and 1980 to 1990

	1970 to 1980		*1980 to 1990 (estimated)*	
	Percentage Change	*Index of Change**	*Percentage Change*	*Index of Change**
Arizona (all age groups)	53.1	1.00	32.8	1.00
Under 15	19.8	.38	11.9	.36
15-19	47.4	.89	6.6	.20
20-24	79.4	1.49	18.0	.55
25-34	105.5	1.98	44.5	1.35
35-44	52.0	.98	72.8	2.21
45-54	32.5	.61	48.8	1.48
55-64	69.0	1.30	32.7	.99
65 and over	89.7	1.69	41.6	1.26

*Index of change equals the percentage change in a given age group divided by the percentage change in Arizona for all age groups.

Source for estimates: Arizona Department of Economic Security, Population Statistics Units, January, 1982.

Also notable is the relative decline expected in older adults age 55-64, the result of the low birth rates from the mid-1920s through the 1930s. Such a decline has significant implications, especially for the currently booming retirement industry of Arizona.

RECENT ARIZONA BIRTH TRENDS

One debate that these developments in age structure have generated is whether a baby boom will occur in the United States in the 1980s.[5] The leading proponent of the baby boom is Richard Easterlin, whose arguments are based on a cyclical theory of birth rates.[6] The high birth rates from the end of World War II through the early sixties resulted from the fact that the relatively small numbers of people born during the Great Depression found more favorable labor market conditions than their parents at similar stages in the life cycle. Because their incomes were relatively higher than anticipated, the depression era babies married younger and had children sooner and in greater numbers compared to their parents. On the other hand, the low birth rates from the early sixties through the end of the seventies occurred because the postwar baby boom individuals, who had come of age, found tremendous competition in job markets due to their record numbers. According to Easterlin, their income expectations were not met, causing delayed marriage, postponed childbearing, and the large increase in working women. Because the number of young adults in the United States will be falling sharply in the 1980s, due to the low birth rates of the sixties, Easterlin agrees that the situation will be similar to that after World War II. Competition for jobs will be eased, incomes will rise and the stage will be set for another baby boom.[7]

In Arizona, birth rates have been greater than U.S. rates for every year from 1950 to 1980, but the up-and-down cycles typically move in conjunction with U.S. rates.[8] This leads to the expectation that Arizona may experience a substantial increase in total births during the 1980s if U.S. rates rise even moderately. Table 3 contains recent birth rate data for Arizona.

In 1981, there were 12,077 more births than in 1975, representing a 30 percent increase in the total number of births in the state. Much of this increase occurred toward the end of the decade with approximately an 8 percent increase from 1978 to 1979 and 7½ percent increase from 1979 to 1980. In 1981, however, the increase was more modest at just 3.14 percent. Nevertheless, the gain was significant compared to the average of 2.96 percent for recession and postrecession years of 1975-1978.

TABLE 3

RECENT BIRTH DATA
FOR ARIZONA RESIDENTS

Year	*Total Number of Births*	*Yearly Percentage Increase*
1975	39,543	—
1976	40,028	1.23
1977	41,827	4.49
1978	43,058	2.94
1979	46,549	8.11
1980	50,049	7.52
1981	51,620	3.14

Source: Arizona Department of Economic Security.

The age-specific birth rates reveal more detailed information about the childbearing patterns of Arizonans (Table 4). One clear pattern that emerges is that Arizona's birth rates are consistently above the U.S. birth rates for all age groups. In the predominant childbearing age group, age 20-24, for example, the U.S. birth rate in 1975 was 115 births for every 1,000 women in that age group, while in Arizona, the birth rate was considerably higher at 143 births per 1,000 women.

Another significant fact is that the sharp increase of nearly 3,500 total births from 1978 to 1979 was the result of increased numbers of women in the key childbearing ages of 20-34 (Table 2). This is shown by the fact that while the actual number of births increased, the number of births per 1,000 women actually declined considerably.

Based on recent trends, by 1985 total births in Arizona are expected to increase to 64,600; and in 1990, Arizona can expect 85,600 births, a 70 percent increase

TABLE 4

AGE-SPECIFIC BIRTH RATES[a]

Age group	*U.S. 1975*[b]	*Arizona 1975*	*Arizona 1979*	*Arizona 1981*
15-19	56	64	65	72
20-24	115	143	120	132
25-29	110	136	113	115
30-34	53	63	68	73
35-39	19	24	25	27
40-44	5	6	6	6

[a]Live births per 1,000 women in the appropriate age range.
[b]The year 1975 was the last year for which national birth rate data are available.

Sources: U.S. Department of Vital Statistics, Arizona Department of Economic Security.

over the decade.[9] These projections are obtained by applying linear regression analysis to three data series for the years 1975-1981: age-specific population, total births, and age-specific birth rates. Although linear analysis over a short interval must be interpreted with care, particularly when forecasting birth rates a decade into the future, the numbers are, nevertheless, startling. Certainly a change of this magnitude would have major repercussions on schools, day care centers, and other firms and organizations that cater to the youth market.

COUNTY DATA

State statistics are extremely useful for government officials and business leaders, but county statistics can provide specific ideas about where population growth will be concentrated, where various social services provided by the state need to be focused, and which locations are most appropriate for particular forms and organizations. Table 5 contains demographic statistics for each of the fourteen counties of Arizona.

TABLE 5

ARIZONA POPULATION STATISTICS BY COUNTY

County	*Apache*	*Cochise*	*Coconino*	*Gila*	*Graham*	*Greenlee*	*Maricopa*
1. Population							
a. 1980 Population	52,108	85,686	75,008	37,080	22,862	11,306	1,509,052
b. Percentage Growth Rate, 1970-1980	61	38	55	27	38	10	55
c. 1990 DES Estimate*	75,800	104,400	107,300	41,800	29,000	12,700	2,033,200
d. Estimated Percentage Growth Rate, 1980-1990	45	22	43	13	27	11	35
2. Racial Composition							
a. White	11,902	73,261	49,235	30,147	17,085	9,357	1,307,455
b. Black	271	3,224	1,275	88	474	18	48,113
c. Native American	39,035	496	20,916	5,085	2,744	235	22,903
d. Spanish Origin**	1,983	22,846	7,315	7,723	5,457	5,446	199,003
3. Percent Rural	76.2	38.6	38.0	46.2	54.6	38.8	4.75
4. Households							
a. Number Occupied	12,638	28,977	21,890	12,847	6,587	3,607	544,759
b. Persons per Occupied Household	4.1	3.0	3.4	2.9	3.5	3.1	2.8
5. Median Age	20.6	28.8	23.4	31.0	26.0	25.6	29.7
6. Population Age 0-17							
a. Number	23,302	27,123	24,760	11,771	8,195	4,326	423,874
b. Percent of Total	44.7	31.7	33.0	31.7	35.9	37.9	28.1
7. Population 65 and over							
a. Number	2,810	8,797	3,553	4,740	2,254	733	174,732
b. Percent of Total	5.4	10.3	4.7	12.8	9.9	6.4	11.6
8. 1980 Crude Birth Rate	31.3	18.31	24.3	19.0	22.4	23.8	17.8
9. Increasing or Decreasing Fertility***	Increase	Stable	Increase	Decrease	Increase	Stable	Increase

*Approved January 8, 1982.
**Separate listing in Census data — includes Whites, Blacks, and Native Americans.
***According to S. Dandoy, "Factors Influencing Arizona Births."

Sources: U.S. Census Bureau, Arizona Department of Economic Security, and *Arizona Business.*

General population data are listed first. Included are the 1980 census estimate of total population, the growth rate from 1970 to 1980, the Arizona Department of Economic Security's total population projection for 1990, racial composition, percentage of rural population, and household composition. This last category lists the number of persons per household along with the total number of households to convey a picture of household structure. Next, age composition statistics are presented. In general, sharp variations are found in median age across counties, reflecting major differences in age structure. These differences are highlighted further in the data on the 0-17 age group and the 65-and-older age groups. Finally, 1980 crude birth rates are listed, followed by Dandoy's classification of a county's fertility based on age, racial, and religious composition. For summary purposes, Arizona's counties can be classified into four groups:

TABLE 5 (continued)

ARIZONA POPULATION STATISTICS BY COUNTY

County	*Mohave*	*Navajo*	*Pima*	*Pinal*	*Santa Cruz*	*Yavapai*	*Yuma*	*Total Arizona*
1. Population								
a. 1980 Population	55,865	67,629	531,443	90,918	20,459	68,145	90,554	2,718,215
b. Percentage Growth Rate, 1970-1980	116	42	51	33	47	84	49	53
c. 1990 DES Estimate*	68,000	87,500	710,000	111,100	29,200	90,900	107,900	3,609,000
d. Estimated Percentage Growth Rate, 1980-1990	22	29	34	22	43	33	19	33
2. Racial Composition								
a. White	53,477	32,543	442,888	61,849	16,515	65,322	69,725	2,240,761
b. Black	99	597	15,118	3,017	69	193	2,421	74,977
c. Native American	1,469	32,129	14,928	8,499	57	1,005	3,247	152,745
d. Spanish Origin**	2,148	4,538	111,418	26,752	15,229	4,205	26,638	440,701
3. Percent Rural	36.4	63.3	11.8	40.5	23.3	54.4	30.9	16.2
4. Households								
a. Number Occupied	21,110	18,301	195,459	28,411	5,999	26,599	29,848	957,032
b. Persons per Occupied Household	2.7	3.7	2.7	3.2	3.4	2.6	3.0	2.8
5. Median Age	37.1	22.6	29.5	28.1	27.2	39.2	27.9	29.2
6. Population Age 0-17								
a. Number	14,565	28,402	142,259	29,999	7,422	16,499	28,720	791,487
b. Percent of Total	26.1	42.0	26.8	33.0	36.3	24.2	31.7	29.1
7. Population 65M								
a. Number	8,548	4,081	62,194	9,713	1,904	13,341	9,962	307,362
b. Percent of Total	15.3	6.0	11.7	10.7	9.3	19.6	11.0	11.3
8. 1980 Crude Birth Rate	15.7	28.2	16.8	20.2	24.4	13.7	20.4	18.4
9. Increasing or Decreasing Fertility***	Stable	Increase	Increase	Increase	Increase	Stable	Stable	

*Approved January 8, 1982.
**Separate listing in Census data — includes Whites, Blacks, and Native Americans.
***According to S. Dandoy, "Factors Influencing Arizona Births."

Sources: U.S. Census Bureau, Arizona Department of Economic Security, and *Arizona Business.*

(1) *Young age structure, high birth rate potential, fairly rapid growth in the 1970s.* Included here are Apache, Coconino, Navajo, and Santa Cruz counties. Each has a relatively low median age, a relatively large average household size, and high crude birth rates. Furthermore, each has sizable Native American or Spanish populations.

(2) *Relatively young age structure, moderately high birth rate potential, less than "average" growth in the 1970s.* Included here are Cochise, Gila, Graham, Greenlee, and Pinal counties. Each of these counties has a crude birth rate well above the U.S. value of 15.9[10] in 1981, and each has a larger percentage of 0-17 year-olds than the state average.

(3) *"Average" age structure, moderate fertility potential, migration an important component of growth.* Included here are Maricopa, Pima, and Yuma counties. They experienced a rapid growth in the 1970s, and each has a crude birth rate above 15.9. Yet each has a fairly large older population and a fairly small average household size.

(4) *Older age structure, low fertility potential, high inmigration.* Included here are Mohave and Yavapai counties. Each has a low crude birth rate, yet they were the fastest growing counties in the state in the 1970s. Obviously, inmigration in older age groups is playing a significant role in these counties.

SUMMARY

This article has stressed the usefulness of demographic data in general and age structure in particular for understanding Arizona's economic and social make-up. Population analysis can be a valuable tool to planners and economic forecasters because demographers can predict with high degrees of accuracy the changes in age composition over extended periods of time. This article has described the major structural developments taking place in the state's population both in the recent past and near future, and then these changes were related to birth rate trends. More specifically, the article extended previous work on Arizona birth rates appearing in *Arizona Business* and concluded that a baby boom in terms of numbers of births is a good possibility in the state in the 1980s, especially if recent birth rate trends continue. These statewide changes in turn have differing effects in each county because demographic composition varies markedly across the state. By anticipating these state and county impacts, government agencies and private firms will be able to reduce planning errors and more effectively utilize the state's resources.

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[1]Stephen Happel and Timothy Hogan, "Birth Rate Trends: Implications for the Future," *Arizona Business*, November 1980, pp. 3-10; and S. Dandoy, "Factors Influencing Arizona Births," *Arizona Business*, June/July 1981, pp.3-11.

[2]Immigration, particularly a continued large influx of illegal immigrants, may temper the wage increases for young workers; but we still anticipate improving job markets for young workers (15-24 years old) as the 1980s progress.

[3]Data provided by Mary Dutton, Bureau of Vital Records and Information Services, Arizona Department of Health Services.

[4]This model, termed the BREAM (Bureau of Reclamation Economic Assessment Model), forecasts population values through a multitude of economic-demographic interactions. For a complete description, contact Mubin Qaheri, Population Statistics Department, Arizona Department of Economic Security.

[5]A "baby boom" can be defined in several ways. One definition is that the crude birth rate (total number of births/total population) increases substantially for an extended period, say 5 to 10 years. A second definition is that the total number of births increases substantially for an extended period. The problem is that one of these definitions can occur while the other does not. For example, the total number of births in a country or region can rise sharply, yet the crude birth rate can remain constant if the number of childbearing adults increases simultaneously with the number of births (due to inmigration). Because of this problem, researchers may differ in their interpretation of whether a baby boom has actually occurred. The authors favor the second definition because large, sustained additions to the total number of births are the primary cause of bulges in age structure so significant economically, socially, and politically.

[6]R.A. Easterlin, *Birth and Fortune: The Impact of Numbers on Personal Welfare* (Basic Books, New York, 1980).

[7]Easterlin anticipates that the total birth rate, an estimate of the completed family, will increase from the present value of 1.9 to approximately 2.7 by the end of the decade. In other words, women on average will have an additional child by the end of the decade.

[8]See Happel and Hogan, pages 5-6 for the precise differences.

[9]Thanks to Charles Page of Samaritan Health Service for his assistance with the calculations.

[10]National Health Statistics, Natality Division (by phone).

Women as Entrepreneurs: A Preliminary Study of Female Realtors® in Arizona

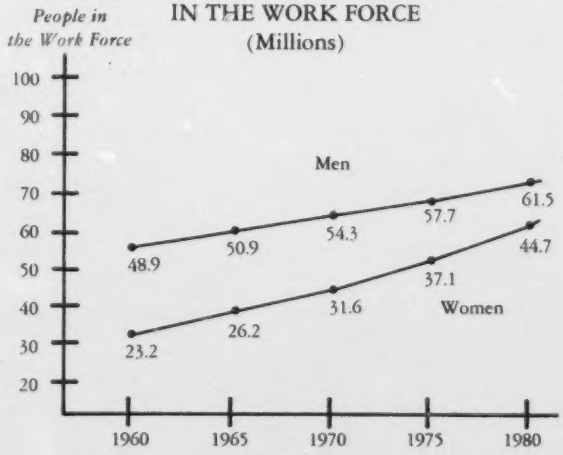
TIMOTHY MESCON
GEORGE E. STEVENS

The decade of the sixties ushered in some revolutionary changes in the customs and mores of American society. History may reveal that one of the greatest upheavals that occurred during this period was the onrush of women into the work force. Figure I indicates that in 1960, 23.2 million women were working outside the home in a total labor force of 72.1 million. These female workers comprised 32 percent of the total labor force. By 1980, twenty years later, 51.7 percent of all working age females, or approximately 44.7 million, were employed — nearly double the number of 1960. These working women represented 42 percent of the labor force. According to the Department of Labor Statistics, by 1990 half of the labor force will be female.[1]

Growing up female in our American economic system is a difficult way to learn basic business skills. A traditional socialization process combined with stereotyping (in which people may assume women lack business skills), has often pointed women to an occupational field other than business. However, the expanding economy of the 1960s and the passage of various equal opportunity laws were factors in a dramatic increase in the number of women who successfully managed corporate careers. Coincidentally, increasing numbers of females have recognized the need and value of a formal business education. Between 1973-74 and 1978-79 female baccalaureate graduates in business management increased from 13.1 percent to 30.7 percent. The percentage of female master's degree recipients increased from 6.6 percent to 19.1 percent during the same period.[2]

FIGURE I

A COMPARISON OF MEN AND WOMEN IN THE WORK FORCE
(Millions)



Source: U.S. Bureau of Labor Statistics, unpublished data.

The success of women in real estate is related to a number of factors including their attitude toward control of their own destiny, availability of capital, and managerial expertise.

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Although there has been a proliferation of research on women in their attempts to climb the corporate ladder and their impediments, little has been written about women who have their own businesses or the obstacles they face.[3] The American Women's Economic Development Corporation (AWED), however, has identified a number of factors that affect women who decide to own a business:

> Fear of accounting and math often discourages women from diagnosing the condition of their companies and from planning their direction. An aversion to asserting themselves sometimes keeps women from confronting workers who should be disciplined or fired. And worrying about slighting their other responsibilities as wives and mothers sometimes becomes a harmful preoccupation. Those businesses that do survive are testimony to their owners' energy and determination not to let an offspring fail.[4]

Despite many obstacles, the number of women-owned firms in the United States increased noticeably, beginning in the mid-1960s and continuing through the 1970s. Although the term "entrepreneur" often may connote an image of Horatio Alger, the statistics revealing increases in women-owned businesses indicate that the classic perception of the entrepreneur as a rugged individual male may indeed be anachronistic. According to the Census Bureau, from 1972 to 1977 (the latest year for which accurate data are available), the number of women-owned businesses in this country increased nearly one-third, from 486,000 to 702,000. Receipts for women-owned firms increased from $23.5 billion in 1972 to $41.5 billion in 1977, a jump of 72 percent. Although firms owned by women represent only approximately 7 percent of all business firms in this nation and about 6.6 percent of all business receipts, the rapid increase in this segment of American business suggests that it deserves closer scrutiny. Much of the growth in women-owned businesses is in the service sector. The steady rise in women's participation in the labor force and lack of written information about female entrepreneurs suggests a need for research on women business owners.

In the state of Arizona, a state which has experienced substantial population growth over the past two decades, real estate is one of the most important industries and one that has attracted a sizeable number of female owners. This article, therefore, examines a select group of women entrepreneurs — those owning residential real estate firms in the state of Arizona. It is the nature of exploratory research on entrepreneurship to identify certain recurring characteristics and traits that may assist others in their decisions to initiate their own businesses. Not only does this study examine some traditional descriptive data frequently evaluated in entrepreneurship research; it also probes the psyche of the female entrepreneurs by assessing their responses to a classical entrepreneurial measure, Rotter's Locus of Control Scale. The Rotter Scale purports to measure an individual's belief that he or she controls the environment or that forces beyond his or her control are responsible for outcomes experienced. The scale consists of 23 question pairs, using a forced-choice format, plus six filler questions. The history of the development of the measure is detailed in Rotter's monograph. This scale is discussed in more detail later on in this article.[5]

FOCUSING ON REAL ESTATE

Since only a few studies have addressed women as entrepreneurs, it was important to select a suitable, relatively homogeneous industry for this research. Real estate was selected for three reasons. First, most brokers involved in the sales of residential real estate property in a given locale compete directly with one another for the sale of the same group of listings. Thus, residential real estate brokers in a given area are merchandising identical products. Second, currently the real estate industry represents an excellent opportunity in the service sector for scores of independent innovators, entrepreneurs with little initial capital investment required, and the possiblity of success and security. Finally, more than thirty real estate franchise chains are in operation in the United States. In the past twenty years, these chains have sold well over 10,000 franchises representing close to one billion dollars in gross commissions. Many of these franchises are represented in Arizona. Real estate franchises are growing at a rate of 30 percent annually and represent a significant segment of the residential real estate industry today.[6]

Nationally, the residential real estate industry employs more than one millon persons and includes 150,000 single-office firms.[7] Arizona currently has 32,000 licensed real estate salespeople and 9,000 brokers. May, 1982, data from the Arizona Department of Real Estate indicate that there are approximately 3,000 single-office proprietorships and 2,000 partnerships and corporations in Arizona. Over the past decade, the broker-to-sales-associate ratio has increased from 1-to-2 to 1-to-7 in Arizona.[8]

PARTICIPANTS AND PROCEDURES

The researchers mailed a questionnaire to each of the 309 women-owned residential real estate firms in the state of Arizona. All were members of the Arizona Association of Realtors. Of those surveyed, 108 Realtors,® or 35 percent responded. A brief summary of salient demographic data provided by the respondents is shown in Table 1.

TABLE 1

DEMOGRAPHIC DATA

Variable	*Number*	*Percent*
Ownership Status		
Franchised	19	17.9
Independent	87	82.1
Age		
39 years of age or less	10	9.3
40 years of age or older ...	98	90.7
Business Started		
At or before age 30	16	15.0
After age 30	92	85.0

NOTE: The average number of years in the real estate business for this sample was nearly 15 years (14.66).

Source: Survey conducted by the authors.

Across the total sample of 108, the average years in the real estate business is 14.66. At the time of the survey, 91 percent of the respondents were 40 years of age or older, and 85 percent of those sampled started their businesses past the age of 30. Two-thirds of those sampled had attended college, and 15 percent had pursued graduate degrees. Two-thirds also came from medium to low income families.

On the whole, these entrepreneurs are exceptionally active in terms of involvement with the local Board of Realtors. Two-thirds of the sample are or have been officers or committee members in board activities. Board involvement generally increases personal exposure, a very important factor in the real estate industry.

More than half of the franchised firms responding were members of the prestigious Million Dollar Sales Club, while one-third of the independents earned this distinction. More than half of the independents are sole proprietors (100 percent owners of their businesses).

An attempt was made to learn how these individuals gravitated toward the real estate business, since family members sometimes point their relatives toward a particular enterprise. Only 8 percent of the total sample had fathers in the real estate business, but 53 percent of those sampled had fathers who were also entrepreneurs. None had mothers in real estate or mothers who were entrepreneurs. Sufficient capital is a must in any business, especially an entrepreneurial situation. It is surprising to note that only 9 percent relied on either banks or the Small Business Administration for financial support. This might certainly support the AWED contention that despite the various public pronouncements of increased federal financial support for entrepreneurs in general and women in particular, the majority of female entrepreneurs still rely on personal savings to fund their ventures.

ROTTER'S LOCUS OF CONTROL SCALE

One of the most widely utilized instruments to determine whether or not an individual feels that he or she controls his or her destiny is Rotter's Locus of Control Scale.[9] Specifically, an individual high in internal control perceives events as influenced by one's own actions, hence controlled by one's behavior. On the other hand, the externally controlled individual perceives events as unrelated to one's own actions, hence uncontrollable.

The scale is a forced-choice questionnaire that includes twenty-three choices between internal and external belief statements, and six "fillers." A person scoring high in internal control would fall in the mean range of six to eight. An externally controlled individual scores in the mean range of nine, ten, and above. Thus, the more internally controlled the individual, the lower the person will score on Rotter's scale. For example, the somewhat high score of the sample groups studied by Rotter and listed in Table 2 illustrates the small degree of control these people feel they have over their destiny.

In general, it seems that entrepreneurs would score low on internal locus of control. The idea that the individual who starts a business has a substantial degree of self-confidence and belief in personal abilities is not at all unlikely. The franchisee might score differently (higher) than the nonaffiliated broker on this measure. That is, the franchisee may be less of a risk taker, and therefore, more willing to rely on the support system a franchise provides, which is more likely to assure success. Although both groups are classified as entrepreneurs, still the franchisee uses a franchiser to ensure company growth and survival.

Harvard psychologist, David McClelland, who has researched the subject of entrepreneurship for over two decades, concurs with the assumed relationship between

internal control and entrepreneurial tendencies. He writes:

> The entrepreneurial role has generally been assumed to imply individual responsibility. In fact, some people would define an entrepreneur as he who is ultimately responsible for making a decision . . . achievement satisfaction arises from having initiated the action that is successful, rather than from the public recognition for an individual accomplishment.[10]

TABLE 2

LOCUS OF CONTROL SCORES FOR SAMPLES OF SELECTED FEMALE POPULATIONS

Sample	*N*[a]	*Mean*	*Standard Deviation*
Arizona Real Estate Brokers	106	5.08	3.55
Arizona Real Estate Franchisees	19	4.42	2.89
Arizona Real Estate Independents	87	5.23	3.66
Ohio State University Students	605	8.42	4.06
Rotter (1966 females only)	4,433	8.50	3.90

[a]The total N is less than 108 because two respondents failed to complete the Rotter Scale.

Sources: Real estate scores from survey conducted by the authors. Other scores from J. Rotter, "Generalized Expectancies for Internal Versus External Control of Reinforcement," *Psychological Monographs*, 1966.

Table 2 depicts the locus of control scale performance of the Arizona sample and the split of that sample into independent and franchisee subsamples as well as other female samples. The data indicate that Arizona women entrepreneurs in real estate score substantially lower on the Rotter scale than do The Ohio State University sample and the samples studied by Rotter. Indeed, in research conducted on male enrepreneurs in the residential real estate industry, mean scores of 5.54 for independents and 5.70 for franchisees were recorded.[11] (These data are not shown in Table 2.) The mean score of 5.08 for the Arizona sample is slightly lower and may give some insight into the internal control of the female entrepreneur. It should be noted that a statistical analysis of mean scores for the Arizona subsample did not reveal any statistically significant differences. However, a comparison of the Arizona sample with that of the Rotter original sample, given the sample size and higher mean would result in statistically significant differences.

Specifically, the women in the Arizona sample appear to have a strong belief in their ability to control their own destinies. The low score and the occupation selected may suggest that these are people with high level of achievement motivation. This strong belief in their ability is certainly an important trait for women confronting the great odds of pursuing an entrepreneurial career.

SOME COMMON CHARACTERISTICS

Within the sample surveyed, some consistent traits emerge. Some of these findings are important because they may dispel many of the myths pertaining to women.

Three-quarters of the sample are married and about 20 percent are divorced. Of those that are or have been married, 70 percent have between two and five children. It is very possible that professional success has been achieved by married couples, many of which are in dual career situations. The impact of job demands on personal success is not definitively explained by these data. No information was collected about the existence and timing of marital problems as a result of this investigation. The 20 percent divorce rate cited previously is worrisome. However, one need not conclude that dual career families cannot work well.

Of no great surprise is the fact that to succeed as an entrepreneur, time — lots of it — is required. Almost 40 percent of the sample work more than 50 hours per week, while 40 percent also take less than two weeks vacation a year. Furthermore, it took half the sample about one year to realize the first revenues for their firms.

In terms of management practices, the results of this survey reveal that, at least among this sample of women entrepreneurs, there is a high degree of formalization of the management process. Indeed, 66 percent of the women sampled established specific objectives for their firms, particularly in the areas of sales, sales associates, and number of offices. Fifty-five percent of those sampled encouraged the participation of others in the setting of objectives. The survey also indicated that 63 percent of the women budget their operations and 45 percent project budgets for at least one year in advance. Finally, in the relationship of strategy to structure, 40 percent of those sampled have developed formal organizational charts for their businesses. (Many entrepreneurs, because of the smallness of their operations, need not develop a formal organizational chart.)

FUTURE IMPLICATIONS

Business failures have already reached a 13-year high in 1982, totaling more than 16,000. This represented a 111 percent increase over 1979 failures. Additionally, the total dollar volume of business liabilities also climbed to a record high of 4.6 billion dollars.[12] Million dollar bankruptcies in 1980 hit 643. Of important note to this article, service businesses had the greatest failure rate between the years 1975 to 1980. The reasons cited for this unprecedented number of failures include managerial incompetence or ineptitude; lack of well-rounded experience in sales, finance, purchasing, and production; and ventures into areas in which the entrepreneurs had no previous experience.[13]

Prospective female entrepreneurs should consider a number of factors before deciding to go into the real estate profession. The information discussed previously, and the decision by the Reagan administration to battle inflation by allowing interest rates to rise sharply, explain why the number of women-owned real estate firms is no longer on the rise. Housing starts, and therefore real estate sales, have declined dramatically. (Recent decreases in the discount rate, however, are a very encouraging sign.) Also, Beatrice Fitzpatrick, Chief Executive of AWED, expresses her concern that, "Women aren't exposed to the information and training required to run a business."[14]

In examining future options, the survey reveals that 67 percent of the independent entrepreneurs saw themselves either affiliating with franchises or selling out to corporate chains within the next five years. Only 11 percent of those surveyed envisioned expanding the number of offices during that time period.

Despite the problems cited, the women owners surveyed have gained a measure of success in real estate. As revealed by the low mean scores on the Rotter scale, they tend to believe that they can manipulate and control their own destinies.

The responses of the sample lead us to conclude that the probability of success for future women entrepreneurs in the real estate field might be enhanced if individuals have had prior industrial experience and acquired managerial expertise. Contrary to popular pronouncements in the literature, the majority of the entrepreneurs in this sample not only plan, but plan well in advance, have formal organizational structures, and solicit the input of others in the planning process. Their practices indicate formalization of structure is a major contribution to organizational success. One remaining area of concern is that of capital. Many businesses fail because of lack of capital. Most of the women surveyed obtained initial financing from personal savings, family, or friends. In a highly volatile industry experiencing severe economic times, a substantial equity base is a must for any entrepreneur considering entrance into the residential real estate market.

The survey results reported here are just a beginning. Although many studies describe the experiences of women in corporate management, little has been written about entrepreneurs in general and female entrepreneurs in particular. This study provides some important preliminary research findings on the subject of women as entrepreneurs.

Perhaps the major implication of these results is for future research. Specifically, what factors other than a belief that they control their own destiny, managerial expertise, and business experience are needed to be a successful entrepreneur? Identification of these factors would make a major contribution to our knowledge. Also, research needs to explore the relationship between professional success and personal failure, e.g., divorce. Finally, future research might involve a longitudinal design so that entrepreneurs could be studied over a period of years. Such a design would permit an examination of exogenous variables such as the economy and the impact of such variables on entrepreneurs' success or failure.

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Long-Range Planning in Small Electronics Companies

E.C. HIRSCHKOFF
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Small companies that compete in markets dominated by large firms generally suffer from several disadvantages. In addition to their lack of economies of scale and relatively weak staying power, small firms are typically weak in information processing, and consequently tend to neglect the long-term in favor of short-term considerations.[1]

Because of their centralized management and ease of communication, however, small firms have traditionally been able to compensate with flexibility in production and administration.[2] They have been particularly successful in situations with frequent changes in market demand, in specialized, low-volume products, and as subcontractors or suppliers with large companies. Nevertheless, their success has often depended on the relative ponderousness and rigidity of their larger competitors.

In recent years, small firms have been threatened by the increasingly effective long-range planning systems of large companies. A well-designed long-range planning system can give a static firm a vastly improved responsiveness to the marketplace because the firm can anticipate changes and take appropriate action. Moreover, given the enormous resources of large companies, planning systems may even precipitate such changes through strategic investments in research and development, social programs, lobbying efforts, and the like. Thus small firms may find themselves less able to take advantage of changes in demand or technology or to satisfy specialized market segment needs than large firms that have deployed their resources in accordance with an appropriate long-range plan.

In the mid-1960s, Gilmore predicted that small companies, especially those competing directly with very large firms, would have to adopt strategic planning activities in order to survive.[3] Gilmore advised small-company top managers to shift their primary concerns from immediate profits, ad hoc plans, and adaptability, to the formulation and execution of strategic plans. The greatest challenge for small company management would be to identify new opportunities which, unlike problems or company weaknesses, virtually never show up in the company's financial statements.

Little research has been reported on the question of whether small-company management has indeed turned toward more strategic planning. One survey, conducted among small New England firms,[4] found little evidence of planning more than one year in advance. This article reports the results of a study of planning practices among electronics firms — an industry whose characteristics provide an excellent test of the thesis that small

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Small electronics firms that engage in a systematic program of long-range planning are shown to be in a better competitive position with respect to the larger firms in the industry.

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firms must adopt strategic planning as a basic management tool in order to ensure survival.

SCOPE OF THE PROJECT

The American electronics industry presents an excellent testing ground. It is a well established yet very dynamic industry and is made up of a complete spectrum of company sizes, from very large corporations like IBM and Hewlett-Packard to very tiny "garage" operations. The technology is changing rapidly, and through innovation, numerous small firms are able to occupy special market niches for prolonged periods of time. In numerous instances, new technology breakthroughs have given rise to small firms which, if well managed, continue to prosper. In addition, a large number of small firms act as suppliers or job shops for the larger firms.

The electronics industry is one in which long-range planning can be of crucial importance. Large companies can invest heavily in research and development, producing technological changes that can overturn a given market structure very quickly. Heavy promotional activity by the large companies can also precipitate basic changes in the market structure of the industry. Therefore, it is important for these large organizations to monitor their environment constantly and plan accordingly. Some, like Texas Instruments, have become leaders in developing innovative approaches to strategic planning.

Small companies typically depend on one or a few highly specialized technologies or areas of expertise. Consequently they must be especially wary of their environment, both as presented by their large company competitors and by science in general. Typically weakly capitalized, a sudden change in technology or market structure can be disastrous for a small company.

Given these industry characteristics, one should expect the small companies that survive are likely to be those that undertake strategic planning. The focus for this study is on the surviving small companies.

For this study, the number of employees was chosen as the measure of company size for a number of reasons. First, the employee count is a global measure of organizational complexity. Large numbers of employees require more detailed and intricate management and supervisory structures and tend to exhibit inertia, resisting rapid change. Second, companies with fewer employees do not enjoy the luxury of specialization of function. Many employees wear several hats. If planning is to be undertaken, it typically requires a sacrifice of other activities by key individuals and must be perceived to be of major importance to the organization. Companies with large numbers of employees can more easily absorb a planning staff within their structure.

Following Bamberger's lead,[5] small businesses are defined as those with fewer than 500 employees. A complete listing of small companies in the electronics industry can be obtained from the membership rolls of the American Electronics Association (A.E.A.) from which the sample was selected. It was then determined what fraction of these companies are engaged in formal long-range planning, and whether such activities appear to be related to their competitive situation. In addition, several dimensions of their planning processes were characterized.

METHODOLOGY

Using the 1980 American Electronics Association (A.E.A.) register of members,[6] eighty companies were selected that were privately held (i.e., not a subsidiary of a larger organization) and employed between 20 and 500 people.

Table 1 shows some of the characteristics of the sample and responding firms. The sample has some spread of geographical representation, but is very heavily concentrated in California, mainly in the Southern California and San Francisco Bay Area technology centers. This reflects the A.E.A.'s geographical representation; the organization was formed in the far west and has only recently extended its membership nationwide.

Representation is good from both of the major classes of electronic manufacturers — those producing electronic components (semi-conductors, power supplies, etc.) and those producing end products or systems (computers, instruments, etc.)

A questionnaire was distributed by mail to the eighty companies comprising the sample. The first three questions (Table 2) sought to identify the firm's competitive position *as perceived* by the firm itself and to determine if the firm is engaged in a long-range planning program of some kind. A long-range planning program was defined to have a time horizon of greater than three years.

The balance of the questions were intended to characterize the planning effort of those firms who said they did engage in long-range planning. They addressed such characteristics as the formality of the planning system, the participants in the planning process, the linkage of the planning process to the budgeting process of the firm, and the planning cycle frequency and trigger mechanism.

TABLE 1

CHARACTERISTICS OF SAMPLE FIRMS

	Percentage of Total Sample (N = 80)	*Percentage of Responding Firms (N = 44)*
Geographic Distribution		
California	68	83
Pacific Northwest	13	13
New England	10	2
Other areas	9	2
Nature of Business		
Components	31	20
Systems	64	70
Services	5	10
Age of Company		
0 - 5 years	16	18
5 - 10 years	36	37
10 - 15 years	28	25
15 - 20 years	10	9
Over 20 years	10	11
Number of Employees		
20 - 50	7	7
50 - 100	26	23
100 - 200	33	38
200 - 500	34	32

Source: Survey conducted by the authors.

TABLE 2

LONG-RANGE PLANNING AND COMPETITION

	Percentage of Respondents (N = 44)	
	Yes	*No*
Are your firm's products in a highly competitive marketplace?	93	7
Is a major share of your business conducted in competition with large companies?	50	50
Does your company engage in long-range planning activities?	55	45

Source: Survey conducted by the authors.

RESULTS AND ANALYSIS

A total of forty-four questionnaires were completed for a response rate of 55 percent. Analysis of the data shows no significant difference between the respondent group and the overall subject group selected from the A.E.A. roster, with respect to the distributions of firm sizes, firm ages, or type of business (components, systems, or services). The geographic distribution of the respondent group is rather more heavily California based than was the overall subject group.

Is Long-Range Planning Practiced Widely? Table 2 summarizes the responses to the three questions dealing with the existence of a long-range planning system in the sample firms. The vast majority of companies perceived themselves to be in a highly competitive marketplace, at least with respect to some of their products. Although this may reflect a natural tendency of most firms to regard themselves in this way and may not be an indication of the true state of their markets, heavy competition is characteristic of the electronics industry, partly because of the rapidly changing technology.

More significant is the fact that 50 percent of the responding firms perceive themselves to be in direct competition with one or more large companies (more than 5,000 employees). This concept of competition was deliberately left imprecise because the intent was to determine a *perceived* competitive situation between large and small companies.

The concept of long-range planning was also rather loosely defined as a planning program with a time horizon over three years. Fifty-five percent of all respondent firms answered that they did indeed practice long-range planning. This is certainly a large fraction of the total and larger than expected. In his study of New England firms, which was not restricted to the electronics industry, Shuman found in 1975 that corporate planning was primarily concerned with the short run—one year or less.[7] In only a very few instances did the planning horizon extend beyond one year. This is quite in contrast to what this survey indicates.

To the extent that the responding firms are representative of all A.E.A. member firms with the given size restrictions, one can conclude that a majority of the small businesses in that organization are engaged in long-range planning activity. The percentage of small company A.E.A. members that engage in long-range planning is estimated at 56 percent (±13 percent) at the 90 percent confidence level.

In addition to testing the suggestion that competition from large firms would stimulate planning activities by

small firms, this study tested the correlation between a firm's perceived competitive posture and its long-range planning. Table 3 is a contingency table for correlating the responses to the second and third questions. A statistical test shows significant correlation between positive responses to both questions or negative responses to both questions at the 90 percent confidence level. That is, the existence of a long-range planning program in a firm correlates well with the fact that the company is in competition with one or more large firms.

TABLE 3

RELATIONSHIP BETWEEN LONG-RANGE PLANNING AND COMPETITIVE ENVIRONMENT
(Number of Firms)

		Does your company engage in long-range planning activities?		
		Yes	*No*	*Total*
Is a major share of your business conducted in competition with large companies?	Yes	15	7	22
	No	9	13	22
Total		24	20	44

Source: Survey conducted by the authors.

Planning in Small Firms. The balance of the questionnaire dealt with the nature of the planning systems in the twenty-four firms that responded affirmatively to the third question. This relatively small number, however, leads to large levels of uncertainty in the percentage results shown. At the 90 percent confidence level, those percentages are accurate to about ±17 percent. Nevertheless, the results do give a useful indication of the nature of planning in those small firms.

The results of this part of the survey are given in Table 4. In nearly a third of the firms, planning activities are structured, using systematic and well-defined planning formats. They are conducted on a regular basis, predominantly annually. Only 22 percent of those firms responded indicated that their planning activity was not regularly scheduled; for these the planning cycle was stimulated mainly by the CEO.

This again is in contrast to Shuman's results; he found planning activities to be largely informal and unstructured, a finding he attributed to the small size of his subject companies. He found that a more rigid structure was not viewed as worth the sacrifice necessitated by such a system.

The present survey showed that in almost all cases the CEO and all of his senior staff — the executives responsible for the manufacturing, marketing, R & D, and financial areas — were directly involved in the

TABLE 4

CHARACTERISTICS OF SMALL FIRM PLANNING SYSTEMS

	Percentages of Respondents	
	Yes	No
•Is the planning activity structured, with a systematic and well defined planning format used on each planning cycle?	65	35
•Is the planning activity conducted on a regular basis?	78	22
•If yes, how frequently? Annually	75	
Biennially	15	
Other: Specify — Quarterly	5	
— every 6 months	5	
•If not regularly recurring, is your company's planning cycle triggered by:		
a) Major events in your marketplace or in the business world?	40	60
b) When the CEO believes a new cycle is necessary?	100	0
c) Other identifiable circumstances. Specify — 0		
•Who participates in the long-range planning activity?		
CEO	100	0
Senior manufacturing executive	92	8
Senior marketing executive	96	4
Senior R and D executive	96	4
Senior finance executive	96	4
Senior personnel executive	33	67
Planning staff	17	83
Outside consultant	33	67
Other, specify — 1 case Banker		
•Is the outcome of your planning activity tied formally to your short-range business and operating plans or budgets?	83	17
•Has the long-range planning activity ever resulted in your company pursuing		
a new business area	36	64
a new product line	78	22
a new area of R & D	73	27
a new marketing plan	71	29
an acquisition or divestiture	22	78
•How long has planning been conducted at your company in the way described above? mean: 4.2 years Std. deviation: 2.5 years		

Source: Survey conducted by the authors.

planning activity However, in only one-third of the cases did the senior personnel executive participate, a fact reflective of the relative importance given this position in small firms. These results are consistent with the general view of planning in small businesses as reflected in the business press. Forbes[8] designed a long-range planning approach for the small firm which involves a single-page worksheet and is intended to be used by busy managers of small firms who must make quick decisions.

Small companies simply cannot afford to justify a separate planning staff; only one-sixth of the twenty-four firms making up the sample for this portion of the study indicated that they had a "planning staff." Furthermore, only one-third of these firms utilized outside consultants. The key top managers do most of the planning work.

A very large percentage, about five-sixths of the firms that did have planning activities, tied those activities directly to their operating plans or budgets. Thus, the planning function in these firms is used for control purposes as well. This is plausible when one considers that most operating managers are very pressed for time, especially in small companies. The same key people are involved in both the long-range planning and the short-term budget preparation. It is natural — and probably inevitable — that the two efforts are combined to the extent possible.

As a measure of the success of the planning activities, most firms indicated that these activities were relevant and useful. In three-fourths of the cases, the planning activity had led to new business areas, new product lines, or new research areas. Acquisition or divestiture activity was slight since small companies are generally not in a position to acquire or divest.

The last question was intended to examine how the practice of long-range planning has spread in recent years. The distribution of system duration of use was very broad, with a mean of 4.2 years, a median of 3.5 years, and standard deviation of about two and a half years. This pattern of distribution suggests that such planning systems are being adopted at a fairly steady rate now, but that they actually began to become commonplace only in the past five years or less. Systems older than five years are rare.

This factor would seem to explain the difference between the results of this survey and those of Shuman's survey, which was conducted in 1975. It would seem, therefore, that neither geographic differences nor the differences in the types of firms between the two studies are required to explain the difference in our results. The data imply that Shuman's survey was simply conducted prior to the beginning of the recent growth in popularity of long-range planning activities among small companies.

CONCLUSION AND SUGGESTIONS FOR FURTHER STUDY

In summary, this survey project has lent support to Gilmore's hypothesis made thirteen years ago, that small companies would be forced to adopt long-range planning activities if they were to survive in competition with large companies which were themselves adapting that approach to managing their firms. More than half of all small electronic firms which are members of the A.E.A. engage in long-range planning, and there is a significant correlation between those firms that do have such a system and their competitive situation relative to large companies.

These planning systems have developed during the past five years and are continuing to be adopted at a fairly steady rate. The planning systems that are used, while structured and tied to short-term control systems, are relatively modest in scope and complexity. It is mainly the top operating management groups of the various firms which participate in the planning activity.

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Arizona Business Scene

1980 Census Update on Housing

Information from the decennial census of the United States, which was taken April 1, 1980, continues to become gradually available. In the April, 1982, issue of *Arizona Business*, the "Arizona Business Scene" summarized the census data that were available at that time such as age, sex, race, marital status, and living quarters. Additional information is now available concerning a wide diversity of socioeconomic demographics—information that was gathered from only a sample of the entire population.

One of these areas of information is housing. As expected, the census revealed that most of the housing units in Arizona (63 percent) are single family homes; an additional 12 percent are mobile homes. Large apartment complexes of five or more units comprise 16 percent of the state's housing units. The nonmetropolitan counties have a larger proportion of mobile homes while multifamily housing is much less common. Nearly half of all housing units in the state were built since 1970, with only 28 percent more than twenty years old. Housing in Pima County tends to be slightly older, with 32 percent of all housing units built prior to 1960.

Twenty percent of all Arizona homeowners made a housing move during the fifteen months prior to the census of April 1, 1980. An additional 33 percent had moved between 1975 and 1978, meaning that more than half of all homeowners had moved in the five years preceding the census. The percentage of renters who had moved was much higher: 60 percent had moved in the fifteen months prior to the census and an additional 27 percent had moved between 1975 and 1978. The proportion of Arizonans who changed addresses in recent years was nearly the same across the state except that renters in the nonmetropolitan areas were less mobile than people in the larger cities. Compared to the urban residents, more renters in the less populated areas had lived in the same rental unit for more than five years.

More than 60 percent of the owner-occupied housing units in Arizona have three or more bedrooms, but most of the rental units are smaller in terms of number of bedrooms. Fewer than one quarter of the rental units have three or more bedrooms. Housing units of all types in the nonmetropolitan areas also have fewer bedrooms than in the cities.

The majority of homes statewide are heated by utility gas (57 percent) or electricity (34 percent). Pima County is more dependent on utility gas while Maricopa County is relatively more dependent on electricity. Other sources of fuel such as wood or bottled gas are more widely used in the rural counties than in the metropolitan counties. Air conditioning is most common in Maricopa County, where 79 percent of the housing units have central cooling, although 15 percent have no air conditioning. In

Pima County, 38 percent of all housing units have no cooling, despite the desert climate that prevails over most of the county. Telephones are present in 94 percent of all homeowner occupied dwellings statewide, but fewer rental units have telephones—only 78 percent. Slightly fewer people in the outlying areas have telephones.

The statewide median rent paid in 1980 was $263 a month. For individual counties, the median varied from $211 in the rural counties to $288 in Maricopa County. Statewide, 27 percent paid less than $200 per month while 13 percent paid more than $400 monthly. Adjusting for rent inflation of 10.5 percent between 1980 and 1982 the Arizona median rent would be about $291 monthly for 1982.

Homeowners with a mortgage paid somewhat more per month than renters in 1980: The statewide median was $365 monthly, ranging from $331 outside the urban areas to $379 in Maricopa County. Statewide, 25 percent of all mortgage holders paid more than $500 monthly, but 11 percent paid less than $200. Adjusting for inflation of 20.5 percent from 1980 to 1982 in homeownership costs, the median mortgage payment for 1982 would be $440.

This article has summarized only selected housing data for certain geographic areas from the latest Bureau of Census computer tape. Additional information is available from the Arizona Department of Economic Security for more specific geographic levels, including towns and census tracts. In addition, future issues of *Arizona Business* will feature various aspects of the census data.

ARIZONA SALES OF ELECTRICAL POWER

	May 1982	*May 1981*	*One Year Percentage Change*	*May 1982*	*April 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	2517.9	2656.7	-5.2	2517.9	2298.8	9.5

	June 1982	*June 1981*	*One Year Percentage Change*	*June 1982*	*May 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	2829.4	3331.6	-15.1	2829.4	2517.4	12.4

	July 1982	*July 1981*	*One Year Percentage Change*	*July 1982*	*June 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	3300.1	3695.3	-10.7	3300.1	2829.4	16.6

	August 1982	*August 1981*	*One Year Percentage Change*	*August 1982*	*July 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	3433.1	3689.7	-7.0	3433.1	3300.1	4.0

	September 1982	*September 1981*	*One Year Percentage Change*	*September 1982*	*August 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	2802.3	3140.4	-10.8	2802.3	3433.1	-18.4

	October 1982	*October 1981*	*One Year Percentage Change*	*October 1982*	*September 1982*	*One Month Percentage Change*
Sales of Kilowatt Hours (Thousands)	2192.9	2404.5	-8.8	2192.9	2802.3	-21.8

Source: Based on reports from major suppliers.

A Survey of Arizona Business Conditions

HAROLD FEARON

The economy continued its downslide in October, showing that the recession still is with us, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. All indicators of economic activity were negative in October; the only strong positive note was the stability of prices. Although the recession still has not completely run its course, the rate of decline on both new orders received and production has become progressively smaller in each of the past three months, and the low point of the business cycle should now be close.

The purchasing business survey is in its twenty-first yea of consecutive monthly reporting on the current status of the Arizona economy. Data are gathered through a questionnaire sent at the close of each month to purchasing managers throughout the state, asking them to indicate the direction of activity — higher, unchanged, or lower — on six key indicators of economic activity in the month just ended. Since these purchasing managers deal daily with the forces of supply and demand, they are able to provide timely and accurate information on current business trends, which enables economic turning points to be spotted.

Prices paid for major purchased items registered only a very slight increase, and October marks the eighth consecutive month of essentially stable prices. This is the longest period of level prices in the twenty-one years of this survey, and there is little to suggest that prices will turn up any time soon. Higher prices were reported by 18 percent of the purchasing managers; 66 percent said prices were unchanged; and 16 percent paid lower prices in October than in September. When the economy hits bottom and starts moving upward again, this noninflationary environment should support a fairly long period of sustainable growth.

Delivery time on shipments from vendors shortened for the twelfth month in a row and at a slightly higher rate than in September. During October, 17 percent saw a lengthening of vendor delivery times, while 24 percent received faster vendor deliveries. The fact that Arizona firms continue to enjoy faster vendor delivery shows that operating rates continue to be very slow, although the relatively flat lead times over the past six months indicate that vendor operating rates are stabilizing somewhat.

Inventory levels of purchased materials declined again in October, and at about the same rate as in the previous month. This marks the twentieth consecutive month in which Arizona firms liquidated stocks in the face of very sluggish order receipts. Higher inventories were reported by 20 percent; 42 percent cut their stocks. Although lower inventory reductions are continuing and place a drag on the economy, the September and October cuts were the smallest since last January, hopefully signaling that the stock reductions will end shortly.

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New orders received from customers fell again for the fifteenth month in a row, but the decrease rate was only half that of the previous month and the smallest in more than a year — since September of 1981. Thirty percent said their firm booked more new business in October than in September, compared to the 36 percent who saw their orders shrink. The magnitude of the drop in the new order rate has become progressively smaller in each of the past four months, indicating that the bottom is getting close, which will set the stage for the upturn.

Production declined again, for the thirteenth straight month. Higher output was reported by 24 percent of the firms; 35 percent reduced output. The net decrease in production was the lowest since last March; the rate of decline has been smaller in each month beginning last August.

Employment in Arizona firms was trimmed again, for the seventeenth month in a row, as new order and production declines force cutbacks. Eleven percent of the firms added employees, compared to more than three times that percentage (36 percent) who pared payrolls. While the October net decrease was quite large, it was about the same as in September; the September and October decreases were the smallest since last March.

Thus, October saw a continuation of the very sluggish economic peformance that has characterized all of 1982 and the latter half of 1981. Further declines will occur over the next few months, but the rates of decline are getting progressively smaller and the bottom of the current recession is now in sight. The Arizona economy should be poised for a gradual upturn at the beginning of the new year.

The results of the October purchasing survey are shown in Table 1.

TABLE 1

OCTOBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (October compared to September)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	18	66	16
Delivery time from vendors	17	59	24
Purchased materials inventory level	20	38	42
New orders received	30	34	36
Production	24	41	35
Employment	11	53	36

Source: Purchasing Management Association of Arizona, and the Purchasing Management Association of Southern Arizona.

Arizona Construction Activity

JAY Q. BUTLER

THIRD QUARTER, 1982

The level of construction activity sustained through the third quarter demonstrates a consistent pattern during the past year and a positive outlook for the future of Arizona. With a continuing weak economy, 18,280 permits worth $576 million were issued throughout Arizona, representing an 11 percent decline from the second quarter (20,280 to 18,544 permits) but a 2 percent increase in dollar value ($566 million to $576 million). This year's activity is very comparable to the third quarter of last year when 18,694 permits were issued for $571 million. Specific areas of construction activity are reported in Table 1; the quarterly building permit tables are at the end of this report.

The Arizona construction industry appears to be stable, awaiting the recovery that is expected to occur if the economy were stimulated by increasing employment, lower interest rates, and a continuing low rate of inflation. A strengthening economy is needed to increase the confidence of business and consumers alike to induce them to make long-term commitments such as home purchases or new commercial projects.

Residential Sector

Maricopa County. Table 1 shows that single-family activity declined slightly during the third quarter from 3,003 permits ($124 million) to 2,971 permits ($123 million). A much needed stimulus began during the third quarter with a decline in mortgage interest rates such as the FHA/VA rate, which went from 14 percent to 12.5 percent.

In response, single-family permits increased from 796 permits in July to 1,182 permits in September. Because the inventory of completed new homes is fairly low, sales activity has yet to move up, with only 1,665 recorded sales compared to 3,351 sales of a year ago. In order to sustain a housing recovery, the resale market must improve to allow the "move-up" market to expand. During the third quarter, 8,193 resale homes were sold compared to 8,493 sales in the second quarter and 8,583 sales of a year ago. Because most of these sales used creative financing, the availability of financing at lower rates will enable people to sell, using the more traditional and simpler process.

All Other Arizona Counties. Single-family permits improved in Pima County with a 39 percent increase from the second quarter (510 to 707 permits), although the activity was similar to the 688 permits recorded a year ago. The mobile home sector continues to be an important element of the housing market in Pima County with 454 permits compared to 322 permits in Maricopa County.

In the nonmetropolitan counties, single-family permits remained almost unchanged from the second quarter (1,045 to 1,036 permits) but down from 1,218 permits recorded a year ago. The continued layoffs in the copper and forestry industries have had adverse con-

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sequences on home construction in the affected counties. Several counties, however, reported fairly stable levels of activity from the second quarter: Cochise (87 to 100 permits), Coconino (165 to 152 permits), Gila (73 to 78 permits), Pinal (71 to 94 permits) and Yavapai (195 to 251 permits). Given the weak economy, this sustained level of activity provides a good foundation for the future growth of the residential market in the nonmetropolitan counties.

Commercial Sector

Maricopa County. Multifamily housing continued to be the strongest sector in Maricopa County. The 241 permits ($67 million) are a significant increase over the 96 permits ($23 million) of the second quarter and the 48 permits ($13 million) of a year ago. Even with this increased activity, the metropolitan vacancy level declined to 5 percent from the 11 percent of the second quarter. This downward movement is very common as the winter residents and college students return to the valley. The main problem for this sector could be a resurgence in the single-family market that would divert tenants.

The office building and retail sectors continued to report declining activity. (See Table 1.) After several record years of activity, the office building sector is responding to increasing vacancy rates and an economic environment that does not allow for business expansion. The retail sector has been down for the past few years and is not expected to improve until the consumers increase spending. Furthermore, some fundamental changes could be occurring in this sector due to the increased use of catalog sales and automatic teller machines. If these trends continue, there could be some decline in the need for retail space.

All Other Arizona Counties. The multifamily sector continued to perform well in Pima County with 19 permits ($20 million). The office and retail sectors, as shown in Table 1, continued a downward movement in activity.

Unlike the metropolitan counties, the multifamily sector was down from the second quarter with recorded activity of 7 permits ($3 million) compared to 21 permits ($7 million). The retail sector has been fairly strong in the nonmetropolitan counties as various stores and developers responded to an unserviced market. However, due to the receding economic conditions, the

TABLE 1

ARIZONA CONSTRUCTION ACTIVITY
(Current Quarter, Previous Quarter, and One Year Ago)

			COMMERCIAL							
	SINGLE FAMILY		APARTMENTS[1]		OFFICE BUILDINGS[2]		RETAIL STORES[3]		INDUSTRIAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
MARICOPA COUNTY										
Third Quarter 1982	2,971	123,115,862	241	67,013,796	54	33,935,915	69	9,710,201	90	14,373,222
Second Quarter 1982	3,003	123,880,790	96	23,180,747	61	37,356,438	75	21,780,144	117	22,287,969
Third Quarter 1981	2,102	99,846,430	48	12,738,300	109	65,071,450	121	16,129,186	137	40,006,767
PIMA COUNTY										
Third Quarter 1982	707	36,382,309	19	20,000,177	17	4,315,930	12	3,142,055	1	225,000
Second Quarter 1982	510	30,472,676	14	19,000,785	29	12,924,999	24	5,263,572	4	3,100,000
Third Quarter 1981	688	37,397,997	12	5,726,100	80	13,642,880	57	56,551,901	5	3,643,600
REST-OF-ARIZONA										
Third Quarter 1982	1,036	38,845,420	7	3,414,975	24	1,151,915	57	7,109,512	22	1,698,222
Second Quarter 1982	1,045	41,432,647	21	7,377,363	24	1,280,066	99	16,752,838	30	9,407,007
Third Quarter 1981	1,218	49,054,251	30	12,166,324	35	6,106,513	93	12,741,686	25	754,092
ARIZONA TOTAL										
Third Quarter 1982	4,714	198,343,591	267	90,428,948	95	39,403,760	138	19,961,768	113	16,296,444
Second Quarter 1982	4,567	195,786,113	131	49,558,895	114	51,561,503	198	43,796,554	151	34,794,976
Third Quarter 1981	4,008	186,298,678	90	30,630,724	224	84,820,843	271	85,422,773	167	44,404,459

[1]Five or more housing units
[2]Office, bank, medical, and professional buildings
[3]Shopping centers and other mercantile buildings

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

retail sector reported a decline in activity with 57 permits ($7 million) compared to the 99 permits ($17 million) of the second quarter.

Industrial Sector

Maricopa County. Like the office building sector, the industrial sector was fairly strong in the early part of the 1980s. Economic conditions, however, have finally had their impact on this sector. The 90 permits ($14 million) recorded during the third quarter is a 23 percent decrease from the 117 permits ($22 million) of the second quarter and a 34 percent decrease from the 137 permits ($40 million) of a year ago. In fact, this is the lowest level of industrial permit activity since the 88 permits ($12 million) recorded in the fourth quarter of 1977. While the level of activity has declined, the locale of activity has remained the same with the major areas being Phoenix (27 permits at $6 million) and Tempe (54 permits at $7 million). Due to the location of new industrial facilities, the cities of Chandler and Mesa should have increased industrial activity as the economy improves.

All Other Arizona Counties. Unlike the second quarter, there are no new major industrial developments in the remaining counties. Since the completion of the IBM development, Pima County has reported relatively low levels of industrial activity for a metropolitan county. Given the impact that the decline in the copper and forestry industries has had on Arizona, the key to growth and economic development will be an expanding industrial base that will supply jobs for newcomers and current residents.

LOOKING AHEAD

The single-family sector is finally expected to show significant improvement through 1983, the main stimulus being lower interest rates allowing for some satisfaction of pent-up demand. The signs for recovery are good, but it is still early and much could happen to stifle it.

While the decline in interest rates is important, the key factor is consumer behavior. In a recent survey conducted by the Arizona Real Estate Institute and sponsored by Phoenix Magazine Publishing, Inc., it was found that renters and recent arrivals to the Valley were the dominant element of the market. The "move-up" market was not really evident. Nevertheless, this segment must expand to provide for any strength to the new home recovery.

The important consideration for this market is employment security. Before buying any new residence (whether it be a new home or a resale home), consumers must feel relatively secure about their economic future. This future is affected by actual employment, general economic conditions, rumored layoffs, and income levels. Also, the purchase of any home tends to require dual incomes in a household. Hence, the feeling of economic security must apply to both husband and wife. Thus, the economy must be perceived as being very much improved before this "move-up" market again becomes a dominant force in the market.

Although interest rates are lower, they are still fairly high for most people. Hence, financing will still be important both in terms of interest rates and mortgage forms. Interest rates have declined in response to a weak economy and a relaxation of the Federal Reserve policy. In order to combat inflation, the Federal Reserve had followed a very strict policy. Because of lower inflation and the concern over economic recovery, the Federal Reserve eased its policy by lowering the discount rate. The poor economy also has contributed by lowering the demand for credit.

Interest rates are not expected to decline much further. However, even the current level is fairly good if they remain stable, for volatility has also had an adverse impact on the market. Two factors could force interest rates higher. The first is renewed inflation, which would require the Federal Reserve to again establish a strict credit policy. However, renewed inflation for 1983 is fairly unlikely, for the economy has a great deal of slack (only 67 percent of industrial capacity is being used) to allow for economic growth. The second factor, government borrowing, is more important, for it is most likely to have an adverse impact on interest rates during 1983. The ever expanding deficit will require additional government borrowing. Since the supply of investment funds is fairly limited, competition between the government sector and the private sector for the limited funds in an economic recovery could drive up the interest rates. Given the weak demand by consumers and firms, there should be limited competition until the economy provides more positive signs of growth.

Relative to the form of the mortgage, much has been written about the possible demise of the fixed-rate, long-term mortgage. Many alternative mortgage instruments have been developed to replace the traditional mortgage, including the variable rate mortgage, graduated payment mortgage and the renegotiable rate mortgage. The previously mentioned survey found that while the traditional mortgage will probably not dominate, it is far from being dead. Most consumers prefer it because it is simple and it provides a secure future financial com-

mitment. Industry representatives tend to agree but with the idea that the traditional mortgage will be modified to a shorter term, inclusion of the due-on-sale clause, and a premium on the interest rate.

The key to success in the housing industry has been the provision of the needed financing at an acceptable cost. As economic conditions worsened, the traditional modes of financing were not effective in maintaining the market. Consequently, the expanded use of alternative mortgages provided the needed tools to maintain the market under adverse economic conditions. Hence, as the housing market improves, there will probably be some movement to the traditional mortgage, for it has the highest level of consumer acceptance.

Relative to the remaining construction sectors, 1983 is not expected to be particularly good. The economy still will not be conducive to business expansion. Hence, the commercial and industrial sectors will probably not have much improvement until late in 1983 or early 1984. Historically, housing has led the recovery. As an example, in 1977, single-family permits increased 95 percent over 1976 (12,806 to 25,037 permits) but total building permits only increased 39 percent (37,655 to 52,534 permits).

While there are increasing signs of a housing recovery, the ensuing years will see a changing environment that will affect all aspects of the real estate market. The field will require increased management and marketing skills, new financing forms as needed, and different approaches to land use and construction. With the expected recovery in the real estate market, it will be an exciting and challenging time as the real estate industry provides the product to satisfy the changing needs and demands of Arizona.

Arizona New Housing Starts: Quarterly Report

THIRD QUARTER, 1982

BUILDING PERMITS ISSUED

	1 Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
APACHE CO.	39	17	—	—	—	56
Eagar	13	10	—	—	—	23
St. Johns	3	7	—	—	—	10
Springerville	4	—	—	—	—	4
Unincorporated	19	—	—	—	—	19
COCHISE CO.	100	62	1	—	—	164
Benson	1	6	—	—	—	7
Bisbee	—	—	—	—	—	—
Douglas	3	—	—	—	—	3
Huachuca City	—	—	—	—	—	—
Sierra Vista	52	3	—	—	—	55
Tombstone	—	1	—	—	—	1
Unincorporated	44	52	1	—	—	98
Willcox	—	—	—	—	—	—
COCONINO CO.	152	135	2	—	—	291
Flagstaff	34	35	2	—	—	73
Fredonia	1	5	—	—	—	6
Page	5	30	—	—	—	35
Unincorporated	112	60	—	—	—	172
Williams	—	5	—	—	—	5
GILA CO.	73	58	—	—	—	131
Globe	—	—	—	—	—	—
Hayden	—	—	—	—	—	—
Miami	—	—	—	—	—	—
Payson	19	29	—	—	—	48
Unincorporated	54	29	—	—	—	83
GRAHAM CO.	13	30	—	—	—	43
Pima	1	4	—	—	—	5
Safford	1	—	—	—	—	1
Thatcher	3	5	—	—	—	8
Unincorporated	8	21	—	—	—	29
GREENLEE CO.	6	—	—	—	1	24
Clifton	—	—	—	—	—	—
Duncan	4	—	—	—	—	4
Unincorporated	2	—	—	—	1	20
MARICOPA CO.	2,971	322	20	109	241	6,753
Avondale	—	33	—	—	—	33
Buckeye	2	2	—	—	—	4
Chandler	363	—	1	9	4	433
El Mirage	—	—	—	—	—	—
Gila Bend	—	—	—	—	—	—
Gilbert	30	—	—	3	—	42
Glendale	225	—	—	—	4	264
Goodyear	3	—	—	—	—	3
Guadalupe	—	—	—	—	—	—
Mesa	448	—	1	40	15	740
Paradise Valley	13	—	—	—	—	13
Peoria	165	—	4	—	—	173
Phoenix	976	52	13	35	177	3,477
Scottsdale	200	—	—	—	—	200
Surprise	2	2	—	—	—	4
Tempe	140	—	1	15	29	525
Tolleson	2	—	—	—	—	2
Unincorporated	401	233	—	6	11	828
Wickenburg	1	—	—	1	—	4
Youngtown	—	—	—	—	1	8

BUILDING PERMITS ISSUED

	1 Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
MOHAVE CO.	101	187	2	1	2	355
Kingman City	13	1	—	—	—	14
Kingman Area	8	56	—	—	—	64
Lake Havasu City	31	3	—	—	1	42
Lake Havasu Area	1	7	—	—	—	8
Mohave Valley N.	21	64	2	1	1	144
Mohave Valley S.	13	23	—	—	—	36
Dolan Springs	2	9	—	—	—	11
Sacramento Valley	6	20	—	—	—	26
Mohave General	6	4	—	—	—	10
NAVAJO CO.	151	80	4	—	1	263
Holbrook	—	—	—	—	—	—
Show Low	9	7	2	—	—	20
Snowflake	4	—	—	—	—	4
Taylor	1	8	—	—	—	9
Unincorporated	128	64	2	—	—	196
Winslow	9	1	—	—	1	34
PIMA CO.	707	454	16	8	19	2,229
Marana	—	1	—	—	—	1
Oro Valley	5	—	—	—	—	5
South Tucson	1	3	—	—	—	4
Tucson	151	120	16	6	19	1,333
Unincorporated	550	330	—	2	—	886
PINAL CO.	94	123	—	10	2	291
Apache Junction	27	57	—	6	—	108
Casa Grande	13	—	—	—	—	13
Coolidge	2	5	—	—	—	7
Eloy	—	3	—	—	1	27
Florence	—	—	—	—	1	12
Kearny	—	—	—	—	—	—
Mammoth	1	—	—	—	—	1
Superior	—	1	—	—	—	1
Unincorporated	51	57	—	4	—	122
SANTA CRUZ CO.	15	4	—	—	—	19
Nogales	—	—	—	—	—	—
Patagonia	1	4	—	—	—	5
Unincorporated	14	—	—	—	—	14
YAVAPAI CO.	251	185	1	9	1	482
Chino Valley	9	20	—	—	—	29
Clarkdale	—	1	—	—	—	1
Cottonwood	11	7	—	—	—	18
Jerome	—	—	—	—	—	—
Prescott	49	13	—	6	1	94
Prescott Valley	22	33	1	—	—	57
Unincorporated	160	111	—	3	—	283
YUMA CO.	41	75	—	—	—	116
Parker	1	—	—	—	—	1
Somerton	16	3	—	—	—	19
Unincorporated	15	48	—	—	—	63
Wellton	—	—	—	—	—	—
Yuma	9	24	—	—	—	33
Total, Maricopa Co., 3rd Quarter, 1982	2,971	322	20	109	241	6,753
Total, Maricopa Co., 3rd Quarter, 1981	2,102	509	20	30	48	3,425
Percent Change	41	-36	—	263	402	97
Total, Arizona, 3rd Quarter, 1982	4,714	1,732	46	137	267	11,217
Total, Arizona, 3rd Quarter, 1981	4,008	1,996	70	56	90	7,700
Percent Change	17	-13	-34	144	196	45

Arizona Building Permits: Quarterly Report

THIRD QUARTER, 1982

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
APACHE COUNTY	67	1,201,050	2	104,000	—	—	22	3,341,780	91	4,646,830
Eager	25	777,550	1	40,000	—	—	14	3,334,930	40	4,152,480
St. Johns	11	—	—	—	—	—	—	—	11	—
Springerville	10	—	—	—	—	—	2	—	12	—
Unincorporated	21	423,500	1	64,000	—	—	6	6,850	28	494,350
COCHISE COUNTY	280	5,569,312	17	1,237,540	1	65,000	332	2,855,410	630	9,727,262
Benson	16	99,821	1	2,000	—	—	8	15,240	25	117,061
Bisbee	19	47,200	—	—	—	—	1	200	20	47,400
Douglas	17	247,201	—	—	—	—	76	2,054,946	93	2,302,147
Huachuca City	19	15,660	—	—	—	—	3	56,050	22	71,710
Sierra Vista	77	2,229,019	5	255,040	—	—	186	480,012	268	2,964,071
Tombstone	4	7,050	2	8,500	--	—	10	23,743	16	39,293
Unincorporated	121	2,903,861	9	972,000	—	—	35	210,669	165	4,086,530
Willcox	7	19,500	—	—	1	65,000	13	14,550	21	99,050
COCONINO COUNTY	496	9,544,094	8	1,191,800	4	276,678	173	5,285,512	681	16,298,084
Flagstaff	119	3,323,073	7	1,091,800	1	85,000	119	4,843,472	246	9,343,345
Fredonia	10	46,300	—	—	—	—	—	—	10	46,300
Page	45	277,918	—	—	2	9,000	10	52,214	57	339,132
Unincorporated	307	5,782,901	—	—	1	182,678	33	372,271	341	6,337,850
Williams	15	113,902	1	100,000	—	—	11	17,555	27	231,457
GILA COUNTY	230	2,783,199	2	22,000	1	30,914	52	292,967	285	3,129,080
Globe	5	5,750	—	—	—	—	6	4,372	11	10,122
Hayden	—	—	—	—	—	—	1	300	1	300
Miami	11	35,500	—	—	—	—	—	—	11	35,500
Payson	98	478,082	—	—	1	30,914	34	123,515	133	632,511
Unincorporated	116	2,263,867	2	22,000	—	—	11	164,780	129	2,450,647
GRAHAM COUNTY	99	894,961	5	86,388	—	—	17	924,050	121	1,905,399
Pima	10	83,920	—	—	—	—	5	48,950	15	132,870
Safford	20	100,200	4	66,388	—	—	8	7,050	32	173,638
Thatcher	15	210,100	—	—	—	—	1	800	16	210,900
Unincorporated	54	500,741	1	20,000	—	—	3	867,250	58	1,387,991
GREENLEE COUNTY	7	189,200	1	1,000,000	—	—	—	—	8	1,189,200
Clifton	—	—	—	—	—	—	—	—	—	—
Duncan	5	134,200	—	—	—	—	—	—	5	134,200
Unincorporated	2	55,000	1	1,000,000	—	—	—	—	3	1,055,000
MARICOPA COUNTY	4,890	133,768,116	579	133,669,636	90	14,373,222	4,208	88,067,333	9,767	369,878,307
Avondale	38	58,260	—	—	—	—	43	203,124	81	261,384
Buckeye	9	82,600	1	70,000	—	—	3	9,500	13	162,100
Chandler	451	12,571,109	14	1,302,720	—	—	520	17,042,325	985	30,916,154
El Mirage	11	16,535	—	—	—	—	—	—	11	16,535
Gila Bend	2	3,050	—	—	—	—	3	288,995	5	292,045
Gilbert	34	1,843,549	4	752,161	—	—	7	549,531	45	3,145,241
Glendale	298	6,008,035	26	1,383,048	1	56,000	435	1,158,937	760	8,606,020
Goodyear	5	98,450	—	—	—	—	18	37,553	23	136,003
Guadalupe	3	6,800	—	—	—	—	1	1,500	4	8,300
Mesa	516	19,786,511	70	11,914,463	4	355,573	858	33,380,491	1,448	65,437,038
Paradise Valley	48	1,842,045	4	144,810	—	—	457	571,611	109	2,558,466
Peoria	186	4,278,592	5	447,280	3	149,625	191	370,655	385	5,246,152
Phoenix	1,694	47,451,614	252	85,024,198	27	6,459,124	1,151	23,121,515	3,124	162,056,451
Scottsdale	264	15,760,560	32	8,888,290	1	359,700	365	6,837,851	662	31,846,401
Surprise	15	187,730	—	—	—	—	12	44,832	27	232,562
Tempe	260	10,398,400	114	17,131,200	54	6,993,200	166	1,723,600	594	36,246,400
Tolleson	14	205,168	—	—	—	—	—	—	14	205,168
Unincorporated	1,035	13,121,248	53	6,254,294	—	—	372	2,533,040	1,460	21,908,582
Wickenburg	3	45,000	3	215,800	—	—	3	25,000	9	285,800
Youngtown	4	2,860	1	141,372	—	—	3	167,273	8	311,505

Arizona Building Permits: Quarterly Report (Continued)

THIRD QUARTER, 1982

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
MOHAVE COUNTY	572	6,904,532	35	2,169,264	—	—	543	2,379,407	1,150	11,453,203
Kingman City	49	505,772	12	708,616	—	—	16	144,497	77	1,358,885
Kingman Area	120	1,072,290	5	383,280	—	—	100	471,451	225	1,927,021
Lake Havasu City	59	1,530,259	4	221,024	—	—	44	266,021	107	2,017,304
Lake Havasu Area	13	105,092	—	—	—	—	11	22,826	24	127,918
Mohave Valley N.	188	1,905,802	8	754,104	—	—	224	1,244,451	420	3,904,357
Mohave Valley S.	62	818,544	1	10,416	—	—	73	132,696	136	961,656
Dolan Springs	20	191,564	2	74,304	—	—	25	29,331	47	295,199
Sacramento Valley	43	531,312	—	—	—	—	38	32,836	81	564,148
Mohave General	18	243,897	3	17,520	—	—	12	35,298	33	296,715
NAVAJO COUNTY	407	7,016,538	10	860,765	4	120,500	86	426,467	507	8,424,270
Holbrook	1	700	1	30,000	—	—	6	89,540	8	120,240
Show Low	40	695,566	1	13,800	3	51,500	49	118,875	93	879,741
Snowflake	7	—	—	—	—	—	3	—	10	—
Taylor	11	57,000	1	10,000	—	—	1	14,000	13	81,000
Unincorporated	325	5,866,172	6	105,552	1	69,000	26	201,052	358	6,241,776
Winslow	23	397,100	1	701,413	—	—	1	3,000	25	1,101,513
PIMA COUNTY	1,853	41,286,296	62	28,793,480	1	225,000	1,312	41,206,012	3,228	111,510,788
Marana	2	—	—	—	—	—	1	—	3	—
Oro Valley	8	309,480	3	300,000	—	—	8	110,176	19	719,656
South Tucson	23	75,063	—	—	—	—	12	18,335	35	93,398
Tucson	686	9,877,353	45	23,774,780	1	225,000	651	33,436,701	1,383	67,313,834
Unincorporated	1,134	31,024,400	14	4,718,700	—	—	640	7,640,800	1,788	43,383,900
PINAL COUNTY	362	4,944,099	27	4,850,244	1	33,744	122	894,380	512	10,722,467
Apache Junction	103	2,048,773	12	1,328,023	1	33,744	65	525,224	181	3,935,764
Casa Grande	45	837,131	3	1,758,256	—	—	13	127,341	61	2,722,728
Coolidge	65	212,502	—	—	—	—	5	43,650	70	256,152
Eloy	10	21,365	1	501,000	—	—	—	—	11	522,365
Florence	—	—	1	197,065	—	—	7	85,251	8	282,316
Kearny	—	—	—	—	—	—	2	5,400	2	5,400
Mammoth	1	—	—	—	—	—	—	—	1	—
Superior	6	4,500	—	—	—	—	8	56,600	14	61,100
Unincorporated	132	1,819,828	10	1,065,900	—	—	22	50,914	164	2,936,642
SANTA CRUZ COUNTY	23	783,801	—	—	—	—	13	95,280	36	879,081
Nogales	—	—	—	—	—	—	—	—	—	—
Patagonia	6	63,400	—	—	—	—	5	4,480	11	67,880
Unincorporated	17	720,401	—	—	—	—	8	90,800	25	811,201
YAVAPAI COUNTY	649	13,660,237	34	2,532,191	6	873,680	259	1,273,646	948	18,339,754
Chino Valley	46	591,650	6	148,000	—	—	12	89,550	64	829,200
Clarkdale	4	10,935	—	—	—	—	—	—	4	10,935
Cottonwood	43	615,343	4	1,507	—	—	19	40,725	66	657,575
Jerome	24	31,425	—	—	—	—	3	1,885	27	33,310
Prescott	126	2,737,281	8	1,222,384	3	728,680	124	291,517	261	4,979,862
Prescott Valley	82	1,289,620	2	130,800	2	120,000	1	46,080	87	1,586,500
Unincorporated	324	8,383,983	14	1,029,500	1	25,000	100	803,889	439	10,242,372
YUMA COUNTY	195	3,444,164	9	2,002,101	5	297,706	107	1,863,411	316	7,607,382
Parker	4	43,000	—	—	—	—	3	57,000	7	100,000
Somerton	20	631,815	—	—	—	—	4	26,770	24	658,585
Unincorporated	87	1,750,343	6	419,176	3	161,700	37	1,113,640	133	3,444,859
Wellton	1	1,920	1	10,000	—	—	1	10,416	3	22,336
Yuma	83	1,017,086	2	1,572,925	2	136,006	62	655,585	149	3,381,602
Total, Maricopa Co. 3rd Quarter, 1982	4,890	133,768,116	579	133,669,636	90	14,373,222	4,208	88,067,333	9,767	369,878,307
Total, Maricopa Co. 3rd Quarter, 1981	4,346	109,845,899	595	119,972,452	137	40,006,767	4,244	50,158,861	9,322	319,983,979
Percent Change	12	21	-2	11	-34	-64	—	75	4	15
Total, Arizona 3rd Quarter, 1982	10,130	231,989,599	791	178,519,409	113	16,296,444	7,246	148,905,655	18,280	575,711,107
Total, Arizona 3rd Quarter, 1981	9,932	220,534,877	1,018	235,652,750	167	44,404,459	7,577	70,354,436	18,694	570,946,522
Percent Change	1	5	-22	-24	-32	-63	-4	111	-2	—

*Includes mobile homes

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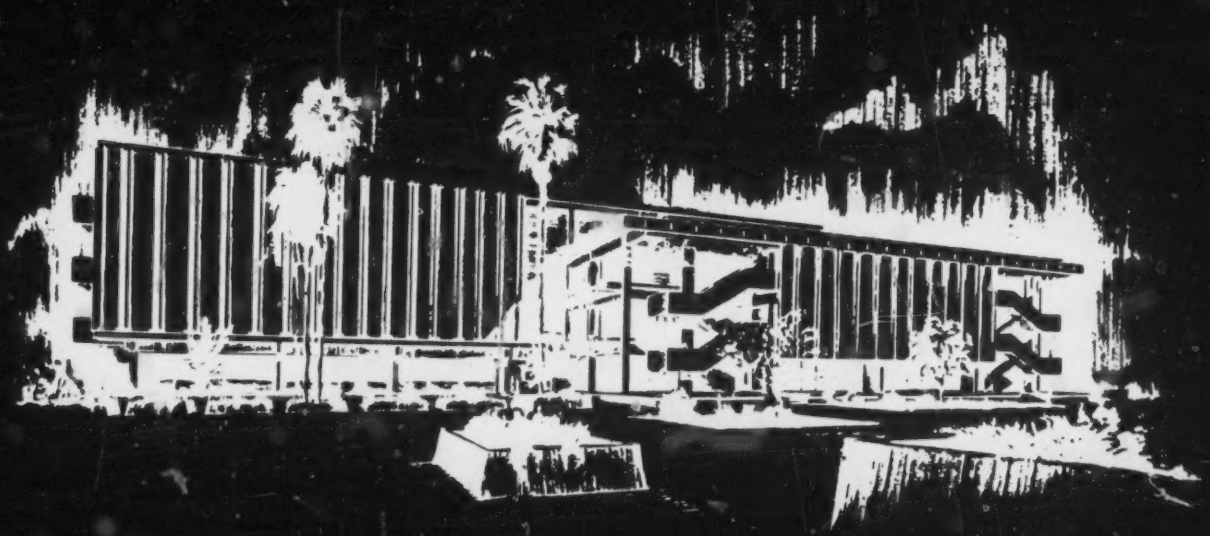

Special Feature:
Economic Forecast for 1983

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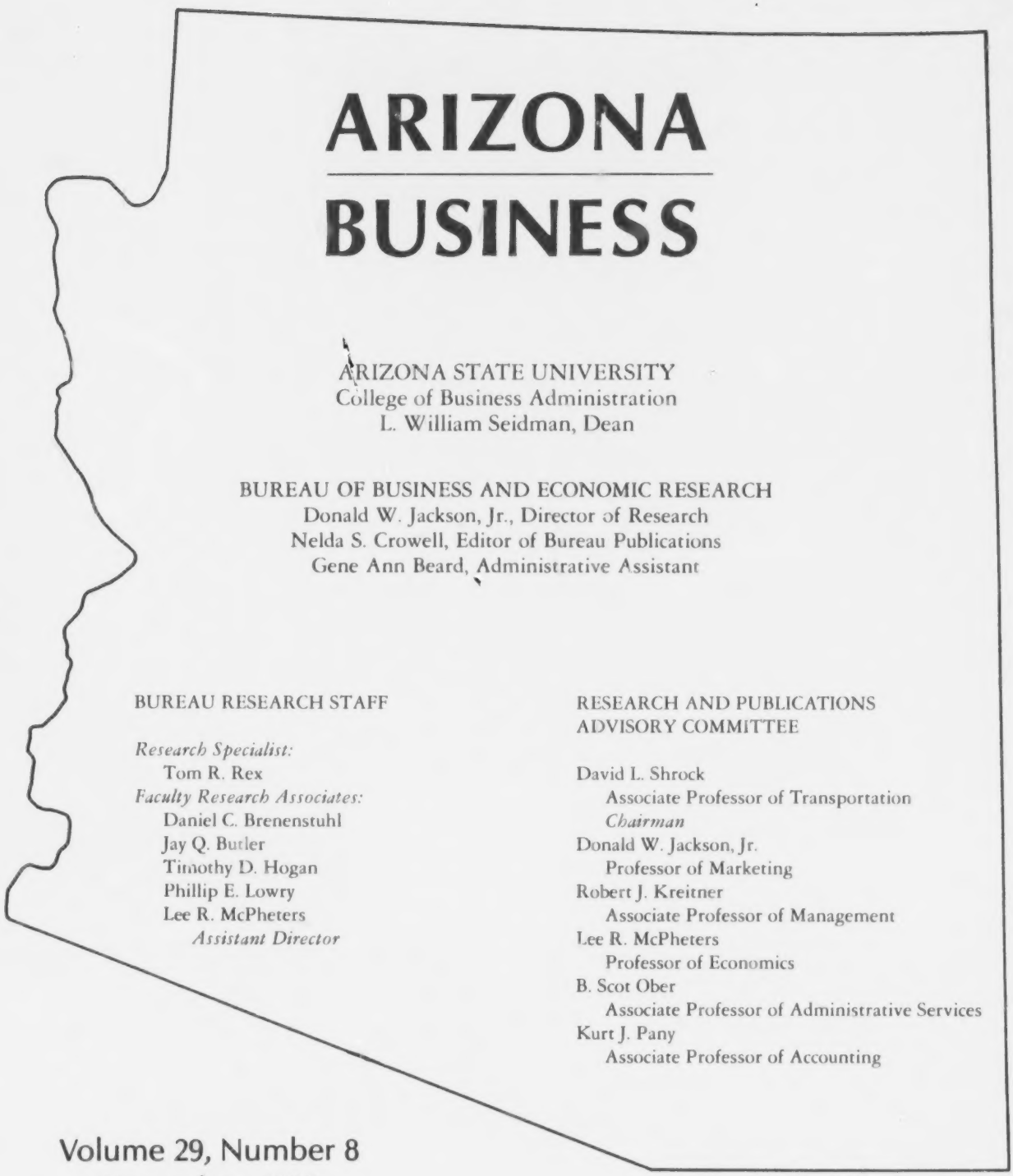

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Report To The Reader

Although economic recovery is expected to occur in 1983, most economists expect it to be slow and somewhat modest. They also agree that inflation has slowed. This was the consensus of the forecasters who presented their views at the annual Economic Forecast Luncheon presented by the ASU College of Business Administration on December 8, 1982 at the Ramada Townehouse. More than 500 people attended this year's program, the twenty-first in this annual series. This issue of *Arizona Business* presents the texts of the presentations.

Featured guest for the program was Dr. Donald Ratajczak, Director of the Economic Forecasting Project, College of Business Administration, Georgia State University. He suggests, "Inflation will remain contained in the 5 percent vicinity through much of 1983, but rising government deficits indicate that real rates of interest may remain high through the year. The recovery should proceed through 1984, but at a relatively modest 4 percent rate of expansion in that year."

Dr. William Boyes, Chairman of the ASU Economics Department, agrees with the forecast of modest recovery and looks to holiday retail sales as an indicator for 1983.

In viewing the Arizona economy, Dr. Richard D. Winkelman, Associate Professor of Economics at ASU, points out Arizona's budget deficit, "The state faces a fiscal crisis....For the future, the restoration of some taxes must be considered in the long run. Economic growth depends on government providing quality services in an efficient manner."

According to B. Paul Jones of the Valley National Bank, the consumer will also be critical in leading economic growth. "Meaningful recovery is dependent on restoration of consumer confidence," he said.

In the housing sector, Clark Cederlof of Western Savings, says that liquidity among financial institutions can be expected to result in a sizable increase in housing permits for Maricopa County.

For Arizona businesses, however, the outlook is not so optimistic, according to Bob Swanson of Del Webb Corporation, who reported on a survey of Arizona manufacturing and natural resource companies. "Management is hoping for a better year in 1983 — but planning for a worse one," according to the survey.

The *1983 Arizona Economic Outlook* is a booklet summarizing the forecasts for Arizona. Copies may be obtained from the Bureau of Business and Economic Research, College of Business Administration, Arizona State University, Tempe, AZ 85287.

The National Economy: An Overview of the Future

WILLIAM J. BOYES

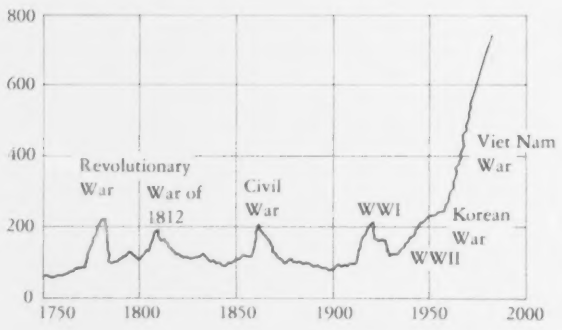
During the 200 years from 1750 to 1950 the United States experienced nearly stable prices. Prices would rise in wartime but would fall after the war ended. Since 1955, however, prices have steadily risen, doubling once, then again, and once again. Examining this change is crucial in understanding the current recession and the coming recovery.

Virtually every chief executive, manager, accountant, and consultant has learned how to operate in a world of inflation — rising inflation in fact — accounting to offset the "false" profits of inventories, increasing debt ratios to pay off debt in lower valued dollars, and learning how to avoid higher tax brackets. When the recession and the falling inflation rates arrived, very few were ready. Balance sheets were out of order; firms and consumers were caught in short-term debt, with high debt ratios, and with portfolios heavily oriented toward housing and other physical assets. These balance sheets had to be adjusted before a recovery could begin, something that did not have to take place in previous recessions. This adjustment is the primary reason the current recession differs from previous recessions.

Compared to previous recessions, this recession is already breaking records. It is now thirteen months long unless one considers the past four months as a recovery period. Tables 1, 2, 3, and 4 describe various aspects of a recessionary economy.

FIGURE 1

THE U.S. WHOLESALE PRICE INDEX, 1750-2000
(1800=100)



Source: Historical Statistics of the United States: Colonial Times to 1957, Bureau of the Census, U.S. Department of Commerce. Later data from the *Economic Report of the President*, annual issues.

Although a severe depression is unlikely for the United States, recovery from this recession is likely to be slow. This article presents various aspects of a recessionary economy and suggests factors that may affect the future of the national economy. This report was one of the presentations at the annual ASU Economic Forecast Luncheon held December 8, 1982.

William J. Boyes is Professor and Chair of the Economics Department in the College of Business Administration, Arizona State University.

TABLE 1

LENGTH OF U.S. RECESSIONS

Recession Year	*Months of Decline*
1949	11
1954	13
1958	9
1961	9
1970	12
1975	6
1980	5
Average	9.3

Source: Economic Report of the President, annual issues.

TABLE 2

REAL GNP, 1981-1982 RECESSION

Year: Quarter	*Real GNP*
1980: III	1463.8
1980: IV	1479.4
1981: I	1507.8
1981: II	1502.2
1981: III	1510.4*
1981: IV	1490.1
1982: I	1470.7
1982: II	1478.4

*Real GNP dropped 2.6 percent from the peak to the trough.
Source: Economic Report of the President, annual issues.

TABLE 3

INDEX OF INDUSTRIAL PRODUCTION
1981-1982 RECESSION
(1967=100)

September 1981	151.6
October	149.1
November	146.3
December	143.4
January 1982	140.7
February	142.9
March	141.7
April	140.2
May	139.2
June	138.7
July	138.8
August	138.1
September	137.3

Source: Economic Report of the President, annual issues.

TABLE 4

DECLINE IN REAL GNP
U.S. RECESSIONS

	*Percent Decline**	
Recession Year	*Actual*	*Annual Rate*
1949	1.5	3.0
1954	3.2	3.2
1958	3.3	6.6
1961	1.2	1.5
1970	1.0	1.9
1975	4.0	5.3
1980	2.6	10.0
Average	2.4	4.5

*Decline shown is from the recession peak to the trough.
Source: Economic Report of the President, annual issues.

WHERE ARE WE NOW?

Several forecasts that are being widely discussed might be classified into three scenarios:

Depression?

The basic story in this scenario is that housing prices would fall (and have fallen) by 15 to 25 percent, severely decreasing household wealth. The saving rate, having fallen to record lows during the late 1970s, would not increase to levels necessary to offset the low wealth. In addition, bankruptcies would continue at a record pace as households attempt to adjust to their real wealth losses and businesses adjust to their heavy debt loads. These bankruptcies would presage a depression similar to the 1930s Depression.

This scenario has several faults, however. The reason people went so heavily into housing was to avoid the losses to financial assets brought by inflation; also, they avoided financial assets. While inflation drops, interest rates drop; individuals will switch from physical to financial assets — into equities. The upward movements of the stock market will offset the losses from housing. In fact, the move since August has generated more than $30 billion of new wealth.

Furthermore, in contrast to the 1930s, the Federal Reserve is not allowing massive numbers of bankruptcies. In fact, the relative loosening since mid-1982 by the Federal Reserve has averted any such crisis.

Another significant factor is that saving did not decline during the 1970s; it merely took the form of physical assets and the "underground" economy. As

inflation falls, the incentive to purchase physical rather than financial assets declines. Saving will return to its traditional form.

Slow Recovery?

This scenario suggests that as the housing sector picks up, it would compete with the government for financing, thereby driving up interest rates. Rising interest rates would diminish or slow the recovery. The basic assumption is that the Federal Reserve would not dramatically expand the money supply. Interest rates, long-term, may drop to as low as 10 percent but would rise to 12 to 13 percent and stay there. Real growth would be no more than 3 to 3.5 percent in 1983.

The crucial, and probably realistic, assumption here is that the Federal Reserve would not allow the money supply to expand at the 1970 rates.

Rapid Expansion?

Few economists are now supporting the idea that a strong recovery with 5.5 percent or more real growth will occur. Nevertheless, there is a potential for a rapid economic expansion.

The personal-income-to-retail-sales ratio has risen rapidly showing that spending has not kept up with income. Part of the reason is that much of the personal income growth has come from government transfer payments — unemployment compensation. This does not aid consumer confidence, and consumers are not going to spend until they are confident of their job security.

In addition, the stock market boom has reliquified many people. Wealth has not been decreased because pensions, mutual funds, and other retirement funds have increased in value. Furthermore, the inflationary decrease will remove the incentives for the "underground" economy and thereby bring forth substantial savings.

The July tax cut and the 1985 indexation will support the move out of the "underground" economy. At the same time, these policies will retain the expectations of high budget deficits and the consequent pressure on interest rates.

WHAT TO LOOK FOR

In sum, observers should watch what the consumer does during the Christmas season. If retail sales do not pick up, inventories will not decrease and the recovery will limp along for another three to five months. The ability and willingness of Congress to tackle the entitlement programs will signal whether the recovery will be strong during the mid to latter part of 1983 or whether the recovery will be postponed. The political environment is excellent for an attack on entitlement programs. Martin Feldstein, Chairman of the Council of Economic Advisors, is an expert in Social Security, and the Administration did not lose much during the 1982 elections. Nevertheless, it is unlikely budget deficits will be much less than $200 billion next year, a fact that creates economic uncertainty for 1983 and 1984.

Outlook for Economic Conditions in 1983

DONALD RATAJCZAK

Of the three possible scenarios — rapid economic recovery, slow and painful economic growth, or worldwide depression — this author favors the middle group. Believers in rapid economic expansion rely upon recent monetary trends or the implications of rising equity values. Certainly, a monetary economist believes that economic recovery is imminent and will be vigorous based upon a 15 percent annual rate of expansion in some measures of money in the latest three months. However, performance in 1982 was not as kind to the monetarists as they like to admit and the likelihood is no greater that their outlook for rapid economic development will be correct in 1983. Similarly, stock market gains may more appropriately be traced to interest rate movements than to any anticipations of expanding economic activity. Implications of stock market performance will be discussed below.

Of greater significance is how that rapid economic expansion would materialize. Certainly, consumer activity could expand rapidly but not without significantly lowering a savings rate that already has fallen below the 6.1 percent postwar historical average. Moreover, such a decline in household savings would lead to greater upward pressures upon interest rates than anyone sees as probable at the present time. Although the scenario favored here anticipates significant consumer activity, it is unlikely that the activity will be sufficient to justify the rapid expansion outlook.

The worldwide depression scenario also appears to be unlikely, although the financial problems generated by the debt structure of less-developed countries cannot be dismissed. Obviously, any malfunctioning of existing financial institutions could distort economic development. If international banks were forced to write off poorly performing loans against their prevailing capital bases, they would not have sufficient capital left to maintain their remaining loan portfolios. As a result, they would have to liquidate some of those perfectly good loans to reduce further default exposure to their depositors. Fortunately, the international bankers are well aware of the magnitude of these problems and appear to be willing to defuse the problem by rescheduling loans, thus spreading the default risk into future periods. Deflationary pressures generated by the financial problems of less-developed countries still could create

---

With positive factors offsetting negative factors, the outlook for 1983 is one of slow economic growth. Consumer savings and consumer spending are forecast to increase, housing is expected to expand, defense activity will increase, and production will improve. Balanced against these are continuing deterioration in fixed investment, little growth in state and local activity, and further deterioration in net exports.

Dr. Donald Ratajczak is Director of the Economic Forecasting Project, College of Business Administration, Georgia State University. *His presentation was part of the Economic Forecast program sponsored by Arizona State University on December 8, 1982.*

worldwide stagnation for several years, but such a condition does not appear likely.

Both worldwide stagnation and rapid economic recovery seem unlikely. What remains is the slow, painful recovery that is rapidly becoming the consensus of most economists. A review of economic events in 1982 may aid in understanding why outcomes other than the slow growth outlook are unlikely in 1983.

REVIEWING 1982

Unduly restrictive growth in the money supply between January and July has been credited with maintaining economic weakness throughout 1982. Certainly, interest rates were unusually high early in the year and definitely declined after Federal Reserve policy appeared to shift after the beginning of July. However, monetary policy was only restrictive when relatively short periods of monetary growth are examined. The Federal Reserve maintained restrictive monetary growth early in 1982 because previous surges in monetary growth at the end of 1981 caused the twelve-month money growth average to sharply exceed Federal Reserve targets. On average, monetary growth was about the same in 1982 as it was in 1981. Yet, economic activity slowed from a 2 percentage point advance to nearly a 2 percentage point decline while the GNP deflator slowed by 3 percentage points. Such a shift in nominal economic activity in comparison to money growth is unprecedented in the postwar period.

Nevertheless, the Federal Reserve s monetary stringency preserved an inverted yield curve (short-term interest rates yielding more than long-term instruments) even as unemployment rates moved toward double-digit levels. Whenever short-term interest rates are above long-term interest rates, the Federal Reserve's policy may be viewed as restrictive. Such a policy early in 1982 clearly was inappropriate.

When the Federal Reserve shifted policy early in July, only a minor complementary movement in long-term interest rates should have developed from that change. In fact, the bond market rally was quite vigorous. Just as long-term interest rates rose almost in proportion to changes in short-term interest rates in 1981, they declined almost as rapidly as short-term interest rates in 1982. Shifts in short-term liquidity certainly would be insufficient to explain such interest rate movements. Rather, the first realization in Washington that budgetary financing was inappropriate began to encourage long-term bond holders that deficits would not continue to explode. More recent administration intransigence on defense spending suggests that some of that optimism may not be justified. Nevertheless, attempts to raise revenues in 1982 were received favorably by the credit markets.

Once the bond market rallied so vigorously, some gains in stock market prices were inevitable. Indeed, long-term government bonds improved by nearly 30 percent in value within a three-month period. Even if projected earnings showed no improvement, such a reduction in earnings potential on those bonds would stimulate nearly a 30 percent improvement in equity values. Not surprisingly, the stock market rallied about 35 percent from its mid-August lows.

If the stock market rallies because of changing interest rates rather than because of changes in expected earnings, then the predictive characteristics of the stock market are not operational. Thus, claims that a vigorous improvement in equity values suggests that economic activity will expand vigorously early in 1983 are not warranted by current stock market performance. Also, the stock market portion of the leading indicators must be discounted because changes in market values depend heavily upon interest rate changes at the current time. If stock market movements are removed from the leading indicators, three of the last five indicator reports would have showed declines rather than the reported advances. After adjustment for changes in interest rates, the stock market and the leading indicators have not yet anticipated significant economic expansion.

Morever, declining interest rates do not necessarily mean that an economic recovery will develop soon. Although long-term interest rates definitely have declined by 3 percentage points from their mid-1982 peaks, inflation also has slowed by 3 percentage points in 1982. As a result, inflation-adjusted interest rates are no lower today than they were when the recession began. Clearly, such interest rates should have little stimulative effect upon fixed investment or upon redressing the imbalances that exist in the dollar's value relative to other currencies.

THE HOUSING MARKET

In one instance, however, market interest rates are more significant than real interest rates in generating increased activity. That instance is the housing market. While purchasers of housing also care about the real interest costs incurred in making their purchases, many home buyers were restricted from receiving loans because monthly payments had become excessive. According to FHA calculations, less than 5 million

households could qualify for the median home when interest rates stood at 17 percent. Now that mortgage rates have declined to the vicinity of 13 percent, monthly payments for that median home have declined by more than $230. As a result, more than 11 million households now can receive financing for that home. Obviously, such a change in the credit worthiness of households must lead to significant expansion in housing activity. This explains why housing already has begun to play its typical role as a recession-ending leader. Indeed, this author estimates that housing starts will average 1.38 million units in 1983 and reach 1.56 million units in 1984. This is based upon the assumption that conventional mortgages will approach 12 percent in 1983 and remain at that level through the latter year.

Although housing unquestionably has benefited from reduced market interest rates, even a substantial gain in housing will not be sufficient to generate economic recovery; for the housing sector accounts for less than 3 percent of GNP. An economic recovery must receive more support than that. Fortunately, several other factors suggest that recovery has begun.

LOOKING TOWARD RECOVERY

Individuals will experience a real decrease in tax liabilities during 1983. Although some economists argue that tax reductions had little effect upon consumer activity in 1982, the evidence suggests otherwise. During the first quarter of 1982, consumer activity increased sharply even as incomes declined under a barrage of plant closings and inventory liquidations. Unfortunately, reductions in employment offset reductions in tax liabilities. Therefore, increased consumer activity from each dollar received was not enough to overcome reductions in dollars earned. Just as the 1982 reduction in marginal tax rates began to alter consumer behavior in the first quarter of that year, the 1983 tax reduction should strengthen consumer activity early in this year. Indeed, consumers may even anticipate these changing tax liabilities and begin to spend in the last weeks of the Christmas season. At any rate, consumer spending after adjustment for inflation should increase nearly 4 percent in 1983.

Consumers also will benefit from inflation rates that are slowing more rapidly than the slowing in wage rates. This wage lag typically encourages consumer response early in an economic upturn. As inflation is expected to remain moderate through 1983, growing by only 5 percent as measured by the CPI and by 4.8 percent on the GNP deflator, real disposable income should increase by more than 4 percent in the year. Thus, consumer savings can increase even as consumer spending expands.

Of course, the expansion in housing should begin to generate increased purchases of household furnishings and furniture. Some gains already have been noted in this area of retail activity. Automobile sales also should begin to grow in the 1983 environment, as the need to replace outmoded models intensifies for the 135 million registered vehicles. Also, automobile prices are expected to increase only about 2 percent in 1983, leading to the first year in which automobile prices grow more slowly than overall consumer prices since the banner 1979 year.

Defense activity will continue to support economic expansion through 1983. Indeed, the backlog of orders suggests that shipments may rise more rapidly this year than in 1982. If so, real defense expenditures, which already grew 9 percent in the previous four quarters, will expand by 9 percent through much of the year. Other federal spending should show little growth in 1983, but the defense component will grow sufficiently to generate nearly a 5 percent growth in federal expenditures during the year.

Finally, inventories are being liquidated so significantly during the fourth quarter, that they will reach minimal levels relative to current orders and sales early in 1983. Fully 50 percent of the production reductions in the metals industries have been caused by liquidations of existing inventories. While prospects for a dramatic recovery in these basic industries that produce industrial materials is unlikely, some improvement in production is probable as inventories sharply reduce their degree of liquidation early in 1983 and then begin their accumulation before midyear. The inventory swing alone will contribute 1 percentage point to GNP during the year.

NEGATIVE FACTORS

Unfortunately, not all the economic sectors will be joining the economic rebound. Because real rates of interest remain very high, fixed investment is expected to decline in real terms by 4.5 percent in 1983. No turnaround is expected in plant and equipment expenditures until late in the year. Commercial construction is expected to remain in a downtrend well into 1984.

Moreover, the dollar has only recently turned weaker in value relative to other currencies. While such an adjustment in the dollar's value ultimately will stabilize the competitiveness of American producers in foreign markets and provide no further benefits to importers into the U.S. market, these adjustments are not expected to become significant until 1984. Indeed, exports should

drop another 4 percent in real terms during 1983. Coupled with some expansion in imports, net exports should subtract as much from economic activity in 1983 as the inventory swing will be adding to that activity.

Of course, the sharp deterioration in net exports will lead to a significant deficit on the current trade account in 1983. Projections are for a $25 billion current account deficit in that year. Such a significant expansion of trade debt almost certainly will generate further weakness in the dollar. At the present time, it is anticipated that the dollar could fall to 200 Japanese yen and to 1.8 Swiss francs sometime in the year. Sharp erosion against the German mark also seems likely after the March elections in that country. Relative changes in the dollar's value in comparison to other major trading partners should not be too significant. The dollar will not become a weak currency, but it no longer will be the strongest currency.

Unfortunately, a weakening dollar will have some inflationary fallout. Just as a strengthening dollar probably contributed an extra percentage point per year to declining inflationary pressures, a weakening dollar in 1983 will be adding to inflationary pressures. In addition, a weakening dollar ultimately will reduce the cost of energy to Europeans. Thus, demand for oil may begin to rise in the latter part of 1983, although increases in oil prices appear to be remote in 1983 or 1984. Our inflation projections include the adverse effects from a weakening dollar.

Finally, state and local governments are experiencing signficant budgetary difficulties. Because the inflation tax has been reduced by the reduction of inflation, many states are now experiencing revenues well below budgeted projections. Since most states cannot run operating deficits, these revenue shortfalls are leading to significant restraint in state and local purchases of goods and services. In particular, employment has fallen by 300,000 in that sector during the last year. Further modest weakness is anticipated through 1983.

The anticipated rebound begins very modestly when the significant strengths in housing, the swing in inventories, the continuing defense buildup and the complementary support of consumer spending are balanced against continuing deterioration in fixed investment, little growth in state and local activity, and further deterioration in net exports. After declining in the fourth quarter, inflation adjusted GNP should expand by about 2.5 percent in the first quarter of 1983. During the second quarter, increasing housing activity, improved consumer spending and inventory restocking all should combine to generate a 5 percent rate of expansion. Economic activity then should slow to a 3.5 percent growth path in the latter half of 1983. From the fourth quarter of 1982 through the fourth quarter of 1983, activity is expected to expand by 3.5 percent. On a calendar year basis, as a result of the weakness in GNP through the fourth quarter of 1983, economic activity is expected to expand only 1.9 percent.

Unfortunately, this rate of expansion is not sufficient to provide enough revenues to offset the reduced receipts created by tax reductions in 1983. Therefore, the government deficit should rise to the vicinity of $200 billion for the next fiscal year. Deficits will not decline below those levels in the subsequent fiscal year unless something is done to remove the $25 billion annual cash deficit in the Social Security fund.

Ultimately, even these government deficits in excess of 5 percent of GNP can be absorbed through increased retained earnings of the corporate sector and higher savings rates at the household level. However, profit gains and dividend payouts suggest that the corporate sector has not yet realized it must increase self-financing of capital expenditures. Thus far, corporate adjustments to current credit market stringency have all been on the side of reduced capital expenditures and reduced inventory investments. At the household level, consumers have experienced little growth in discretionary income. To the extent that savings activity responds to changes in those discretionary levels, the household sector has had little capacity to raise savings rates. In 1983, discretionary incomes will increase and household savings rates will rise. However, the combined changes in savings behavior by the household and corporate sectors in 1983 will not be sufficient to offset increased government borrowings without causing real rates of interest to rise relative to where they otherwise would be.

THE OUTLOOK FOR INTEREST RATES

Fortunately, real rates of interest otherwise would be declining in 1983 under the weight of a relatively sluggish economic expansion. In addition, the underlying inflation rate is showing no tendency to accelerate during the year. Therefore, nominal interest rates might actually decline slightly in 1983 even if real rates of interest show no improvement. When all these offsetting forces are placed together, the following interest rate profile appears to be the most likely in 1983:

Significant gains in corporate profitability early in 1983 should temporarily swell corporate retained earnings. Although the household sector may reduce savings rates slightly, especially in the second quarter,

this shift in private savings should more than offset any moderate increase in government borrowing needs. As a result, interest rates should be able to decline into the second quarter of 1983. Short-term interest rates, as reflected by the federal funds rate, probably will fall to 7.5 percent by that time. This would be consistent with a prime interest rate approaching 10 percent. By mid-year, however, private savings should be slowing down. Unfortunately, government borrowings will be accelerating. In addition, underlying inflationary pressures will show no further downward potential. Under these conditions, interest rates should begin rising. By the end of 1983 short-term interest rates should again be near 9 percent on the federal funds rate, and above 11 percent on the prime rate. Long-term interest rates are expected to decline modestly early in 1983 and then show no further improvement for the remainder of the year.

PROJECTED PROFILE OF 1983

If this outlook unfolds as expected, equity values should begin to reflect improving earnings potential in the first half of 1983. Indeed, the Dow Jones industrial average could approach 1250 by midyear. In the latter half of the year, potential earnings will not show dramatic further gains. At the same time, interest rates may be showing some upward tendencies. As a result, equity values may reach their highest levels near midyear and be slightly below those levels as 1983 ends.

In summary, an economic recovery appears to be beginning, but the magnitude of that recovery should be relatively modest. Inflation will remain contained in the 5 percent vicinity through much of 1983, but rising government deficits indicate that real rates of interest may remain very high through the year. The recovery should proceed through 1984 but at a relatively modest 4 percent rate of expansion in that year.

The Arizona Economy for 1983: Expectations for Recovery

RICHARD D. WINKELMAN

Economic forecasting did not experience a vintage year in 1982. With the exception of the perennial doomsayers, most forecasters failed miserably in anticipating what 1982 would bring.

Table 1 lists key Arizona economic indicators for this forecast article. The table includes columns for the realized values of the indicators for 1981; estimates for 1981 prepared last year at this time; the 1982 forecast values presented last year; a column of the current estimates for 1982; and the forecast for 1983, which is based on the 1982 estimates and a consensus of 1983 national forecasts. The table also includes percentage changes from one column to another.

In addition, the *1983 Arizona Economic Outlook* booklet is also available upon request. This was prepared by the Arizona State University Forecasting Group affiliated with the Bureau of Business and Economic Research.

Instead of the robust economy that was forecast for 1982, the year finished well below expectations. The forecast for 1983, however, suggests a modest upturn with slow but steady growth. This report was one of the presentations at the annual ASU Economic Forecast Luncheon held December 8, 1982.

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A review of 1982 should help in analyzing what went wrong. When the current recession began back in the third quarter of 1981, many forecasters anticipated a quick decline followed by rapid recovery, the type of cyclical phenomena that graphs as a "V." This, after all, had been the experience in previous downturns. Forecasters believed that political pressures in an election year would bring quick, countercyclical fiscal and monetary reaction — but such was not to be the case.

The process that began more than a year ago has been a grinding, debilitating decline in economic activity accompanied by steady, monthly increments to the ranks of the unemployed. Arizona's unemployment rate lagged behind that of the nation for most of 1982, but the state is catching up in this quarter.

Supply-side economic policy was implemented with tax cuts effective October 1, 1981 and July 1, 1982, and a third installment due in July, 1983. Yet, the tax cuts had minimal net impact owing partly to continued bracket creep and higher social security taxes. While fiscal policy appeared to be expansionary, monetary policy, until very recently, was not. Very high interest rates cut into construction activity and automobile sales in particular. These high interest rates were viewed by many as the major obstacle to recovery and, in fact, accelerated the rate of business failure. On the positive side, meaningful gains were marked up against the pervasive threat of inflation.

The end result of all this is that 1981 ended up a somewhat better year than estimated, as shown in Table

1, columns A and C. Personal income actually realized was greater than estimated and the unemployment rate was slightly less. The only key indicator that finished below the estimate was retail sales — an ominous signal of consumer concern.

The 1981 estimates and the assumption of quick recovery led to a robust forecast of the Arizona economy for 1982. Large gains were anticipated in personal income, retail sales, and prices. Unemployment was expected to decline. Much of this was expected to occur in the last half of 1982 after the July 1 tax cut. Instead, the downward drift persisted. Needless to say, the robust forecast was not realized. Column D of Table 1 shows the estimates of 1982 activity based on the information available through the first three quarters of the year. Personal income in current dollars is less than forecast, as is per capita income. The improved performance of the real income measures is the result of the local inflation rate being less than forecast. Total real personal income is slightly larger than forecast as is per capita real income. Nevertheless, when all income figures are compared to what occurred in 1981, the percentage changes are considerably less than forecast and real per capita income declined from that realized in 1981.

Retail sales also demonstrated minimal growth in current dollars and declined in real terms from 1981. The unemployment rate for 1982 is considerably higher than forecast as nonagricultural employment continued to shrink throughout the second half.

Only the Phoenix Consumer Price Index (CPI) performed better than forecast. The CPI rose by only 6 percent in contrast to the 9.5 percent that had been anticipated. Unfortunately that improvement came at great cost in terms of employment and economic activity.

A new feature in the *Arizona Economic Outlook* booklet this year is an estimate of Gross State Product, i.e., Arizona's share of Gross National Product based on Arizona's share by industrial sector. The 1982 estimate is $34.8 billion in current dollars, an increase in real terms of 2 percent.

Although 1982 has been a year of unfulfilled expectations, one can look forward to 1983 with some optimism intact; the turnaround will come in 1983, but neither the United States nor Arizona will experience rapid recovery. The unemployment rate in Arizona will continue to rise for a few more months but is a lagging indicator of real economic activity. Therefore, meaning-

TABLE 1

THE ARIZONA ECONOMY: KEY INDICATORS

Key Indicators	*A* 1981 Estimated[a]	*B* Forecast for 1982[a]	*Forecasted Percentage Change 1981 to 1982 (A to B)*	*C* 1981 Realized	*D* 1982[b] Estimated	*Estimated Percentage Change 1981 to 1982 (C to D)*	*E* Forecast[b] for 1983	*Forecasted Percentage Change 1982 to 1983 (D to E)*
Personal Income								
Total current dollars (000,000)	26,750	30,250	13.1	27,256	29,500	8.2	32,500	10.2
Per capita current dollars	9,419	10,967	11.1	9,748	10,229	4.9	10,943	7.0
Total 1977 dollars (000,000)	16,687	17,236	3.3	17,000	17,333	2.0	18,016	3.9
Per capita 1977 dollars	5,876	5,964	1.5	6,081	6,010	-1.2	6,066	0.9
Population (000)	2,797	2,890	3.3	2,797	2,884	3.1	2,970	3.0
Unemployment Rate (percentage)	6.6	6.2	-5.3	6.5	8.8	35.0	8.2	-6.2
Metropolitan Phoenix CPI (1977=100)	160.3	175.5	9.5	160.3	170.2	6.2	180.4	6.0
Retail Sales								
Current dollars (000,000)	15,531	17,590	12.7	14,982	15,732	5.0	17,000	8.0
1977 dollars (000,000)	9,689	9,972	2.9	9,346	9,243	-1.1	9,429	2.0
Nonagricultural Employment (000)	1,029	1,060	3.0	1,031	1,025	-1.0	1,050	2.4
Gross State Product								
Current dollars (000,000)			•[c]	32,300	34,800	7.7	38,250	9.9
1977 dollars (000,000)			•[c]	20,100	20,500	2.0	21,250	3.6

[a]Estimates based on the first three quarters of 1981. The forecast for 1982 was based on those estimates.
[b]Estimates based on the first three quarters of 1982. The forecast for 1983 was based on those estimates.
[c]Gross State Product data was not generated prior to 1982.
Source: Developed by the author.

ful employment gains will not occur until the second quarter of 1983.

The 1983 forecast is based on the 1982 estimates and on national expectations. It is known that there will be a further tax cut next July, and monetary policy is expected to be relatively easy but will not bear the latent seeds of greatly accelerated inflation in 1984 and beyond.

With this in mind, the following changes are forecast — (Column E of Table 1.)[1]

- Total personal income will rise by 10 percent to $32.5 billion current dollars.
- Per capita income will rise by 7 percent to $10,950 in current dollars.
- Total personal income in 1977 dollars will rise about 4 percent to $18 billion.
- Per capita real income will rise by less than 1 percent to $6,100.
- Population will increase 3 percent to 2.97 million.
- The unemployment rate will average in the range of 8.0 to 8.5 percent per month.
- The Metropolitan Phoenix Consumer Price Index will rise 6 percent.
- Retail sales will rise by 8 percent to $17 billion in current dollars.
- Retail sales in 1977 dollars will rise by 2 percent to $9.4 billion.
- Total nonagricultural employment will increase 3 percent to 1.05 million workers.
- Gross state product is expected to rise to approximately $38.3 billion. An increase in the range of 3.5 to 4.5 percent in real terms is expected, probably closer to 3.5 percent.

Most of Arizona's real growth in 1983 will be spurred by activity in the manufacturing and construction sectors. Little improvement can be expected in mining. The service-related sectors will realize the normal employment gains associated with growth and tourism. Agriculture will stay at current levels.

The impact of government in Arizona must also be considered. The state faces a fiscal crisis, although a plan to resolve that crisis has been offered by the Governor. For the future, the restoration of some taxes must be considered in the long run. Economic growth depends on government providing quality services in an efficient manner. Cutting services would be penny wise and pound foolish.

Finally, 1983 will be a reasonably good year. There will be improvements in the key indicators but not as great as the gains made in previous recovery years. Slow, steady growth over many months as opposed to very rapid expansion in a shorter period would be desirable.

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[1]The figures presented here may differ slightly from those in the *Arizona Economic Outlook* booklet because of more recent data available after printing of the booklet.

Economic Trends for 1983

THREE VIEWS OF THE FUTURE

THE ARIZONA CONSUMER

B. Paul Jones
Executive Vice President
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Valley National Bank of Arizona

Most economists expect 1983 to be the year when the long-awaited recovery finally begins. Recent changes in monetary policy combined with favorable fundamentals for the consumer suggest that 1983 could be a year of improving prospects. Yet, most economists agree that the rate of economic recovery will be subnormal.

The consumer will be critical in leading the economy to a period of stronger and, hopefully, more sustainable growth. Consumer spending accounts for two-thirds of all economic activity, and meaningful recovery is dependent on restoration of confidence.

The fundamentals are favorable. Demographic factors are constructive. The postwar baby boom generation is in its peak buying years. Stocks of consumer durables are aging and deteriorating while potential demands are growing.

Financially, the average American wage earner is in the best condition he has been in for years. The consumer quick ratio (liquid assets as a percent of installment debt) is at the healthiest level recorded in the last thirty years.

Balance sheet leverage in housing is still at a low level relative to the last twenty years. The ratio of financial assets to total assets is near its highest point in a decade.

Only two major components are missing from the consumer picture: affordability and confidence. As a result of the rapid decline in interest rates, affordability has improved dramatically over the past several months, although rates are still high by pre-1979 standards. It seems likely that rates, including consumer loan rates, will decline further. This should make automobiles and other consumer durables more affordable over the next few quarters.

Housing affordability is a major concern. The slump in housing caused by high interest rates has significantly affected durables. When people move to a new home, they buy furniture, drapes and carpeting, and may even buy a new auto for the garage. With mortgage rates declining, affordability and the housing markets are improving.

The major constraint is consumer confidence. To obtain regular readings from the consumer in Arizona,

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During the annual Economic Forecast Luncheon presented by Arizona State University, on December 8, three prominent experts expressed their views on various issues facing the economy during 1983.

This article presents the remarks of the three participants, who addressed concerns related to the consumer, the housing industry, manufacturing, and natural resources.

the Valley National Bank commissions the Behavior Research Center to conduct a quarterly survey that reveals consumer views on the economy and consumer intentions to buy durable goods. Consumer confidence, both nationally and in Arizona, remains low.

Nationally, consumer expectations have proven to be a reliable leading economic indicator. As of October, the latest data available, the consumer confidence index nationally registered at about 49, the lowest level since the 1980 recession. In Arizona, the same pattern prevailed. The only difference is that consumer confidence nationally has been declining through most of 1982, while in Arizona it has been essentially flat.

Consumers have been battered with bad economic news for three straight years. A postwar high in unemployment and a forty-year high in bankruptcies are not the things that strong consumer confidence is made of. People are concerned about their jobs and the strength of their future cash flows. It is estimated that, over the past twelve months, approximately one-fifth of all wage earners have experienced at least one episode of unemployment with an average duration of four months. With few signs of an immediate improvement in the job outlook, the continued ebb in consumer confidence is hardly surprising.

The concerns that keep the confidence index low are clearly related to job availability and prospects for family income. Nationally, consumers continue to express considerable worry about the present situation, and they have become increasingly pessimistic in their expectations for the months ahead. The most negative responses are related to the job situation today versus six months ago. In Arizona, the average consumer is skeptical about job availability six months from now. In October, only 24 percent felt that there would be more jobs available six months ahead. This is a low level relative to any pre-1982 experience, but it does represent a modest upturn since the April and July surveys. The family financial situation is also a major concern. Yet, responses to questions about general business conditions six months from now are more positive.

Better news is on the horizon, however. Responses to most questions related to future expectations have become progressively more positive over the last four surveys. Thus, many people still believe that conditions will improve. Fortunately, there is a reason to believe that with the swing in inventories expected in early 1983, unemployment rates will begin to stabilize. Even modest improvement in employment prospects should initiate some recovery in consumer confidence.

It is interesting to note that in the last survey, unemployment was mentioned as the major economic concern, outranking inflation by a two-to-one margin. Nationally, 58 percent mentioned unemployment as the major economic worry; 27 percent mentioned inflation. In Arizona, the numbers were 52 percent and 26 percent respectively. A year ago, inflation was leading unemployment as the major economic problem in Arizona by more than two to one. This is clearly a major switch in perceptions about the most important problem the economy is facing.

Buying intentions, both nationally and in Arizona, also remain at a low level. Nationally, buying intentions stood at 61.5 in the October survey, the lowest level on record. The Arizona figure stands at 108, the second-lowest level on record. Historically, buying intentions have run higher in Arizona than nationally. Recently there has been some rise in planned purchases of autos and brown goods. In the October survey, however, housing, white goods and household goods showed little signs of improvement. Hopefully, surveys in 1983 will show an improvement in both confidence and buying plans as the economy slowly recovers.

The economy still has serious problems. The lack of coordination between monetary and fiscal policies clouds the outlook. It has been mitigated only temporarily because of an extremely weak private sector. Once the economy turns up decisively, pressure to reimpose monetary discipline will re-emerge. If the Federal Reserve returns to targeting the money supply and the government continues to run large and growing budget deficits, economic recovery could be aborted again in late 1983 and 1984.

On the other hand, if the Federal Reserve is forced by Congressional fiat to target either interest rates alone or prices alone, as several bills now pending mandate, the result could be a new round of inflation potentially more severe than that experienced in the late 1970s. Thus, Congress must deal immediately and pragmatically with the looming budget deficits. Unless spending and deficits can be brought under control before substantial private sector demand develops, the same problems that have caused two recessions since 1979 could surface again. However, at least for 1983, the prospects are for a modest but accelerating recovery in the consumer sector. That is the best news we have had in quite some time.

HOUSING AND REAL ESTATE

Clark P. Cederlof
Executive Vice President
Western Savings and Loan Association

A rollercoaster ride might well characterize the fortunes of the housing and real estate industry in the past few years. One experiences anticipation as the rollercoaster chugs toward the top of the first hill. The views are lovely and hearts pound. Then as the rollercoaster heads down, a very unsettled internal feeling is experienced as one wonders how soon it will end. Temporary calm and comfort take over, however, as the coaster heads up the next hill. A number of people in this industry have experienced very unsettled feelings over the past two years as the coaster plunged downward. The pertinent question is whether the car is about to head upward or whether we should experience just a pause and then more unsettled feelings.

The economic environment has brought the savings and loan industry to the brink of disaster. Many institutions have merged, and it has taken national legislation to give others the necessary support with new powers and opportunities to survive. The home building business has been characterized by, at best, level earnings for those who have survived; and hundreds throughout the country have failed. Those businesses who support the housing industry — suppliers of lumber materials and appliances — have not fared much better. High interest rates have priced housing out of the reach of more than 80 percent of all the families of our nation.

Suddenly the mid-1982 downturn in interest rates occurred as rates fell from a level above 16 percent to 13 percent in a very few weeks. This suggests some help for the real estate and housing industry. At least lower interest rates bring affordability to thousands of families on a national basis, and this certainly will be reflected in the Arizona scene as well.

The interest rate downturn has apparently been a signal to those who make a living in and about the real estate industry, and there is a huge renewal of activity on the wholesale side of housing, which is the buying of subdivision land. Local builders and developers and interestingly, a number of national builders, some of whom are traded on the national exchanges, are very well financed and see this upturn as an opportunity to penetrate what they believe is a lucrative, potentially expansive Arizona market.

In order to appreciate the scope of the future, it is relevant to review briefly the present status.[1] Maricopa County building permits for 1982 are likely to be in the neighborhood of 21,000. That is not far off the 1981 number at 22,500 and is substantially ahead of the low of the 1975 recession of 10,000. This suggests that 1982 was not as bad as might have been expected. Pima County, with total permits of 5,300, also did not suffer as might have been expected. This building performance was made possible by two major factors. First, and most important, the new found ability to buy down interest rates provides the homeowner with a loan rate that appears to be below the market, or at least is in an affordable range. In a cooperative effort, home builders and lenders determined that equivalent yields were possible when points were charged up front in order that this lower rate to the customer might be realized. At one point, a large local builder was paying 22 percent of the price of the house in financing fees. The home buyer buys the home fully aware that there is a premium in the sales price of the property but is willing to pay that premium because interest rates at market, 2 to 3 percent higher, were simply not affordable. The second factor contributing to the unexpectedly high permit level was the industrial development bonds sponsored by Arizona municipalities. They contributed to a significant number of starts, particularly in Tucson in the multihousing area.

With declining interest rates and new legislation on a national basis, some very interesting changes can be expected in 1983. Money will be available. The rate at which families save on a national scale has doubled. This simply puts more money into financial institutions — money which can subsequently be loaned out. This savings rate is affected by the unwillingness of families to spend in times of economic uncertainty and a rise in confidence that on a national basis there is and will be continued lower inflation. For the first time in a number of years it is in the consumer's best interest, from a profit point of view, to save rather than spend.

National legislation will be making substantial changes in the nature of the banking and finance industry. Legislation now provides that as of December 14, the thrift and banking industry will be able to attract funds from stockbrokers and others who left their institutions in the last several years. Approximately $250 billion is held by the brokers of our nation. The figure is in the neighborhood of $3.7 billion in Arizona. The thrift industries, with their new accounts, could recapture $1 billion on a statewide basis. This, along with the increased savings rate, could certainly provide a catalyst for real estate development. An interesting sidelight in the new banking and finance era is the entry

into Arizona by out-of-state banks. Now represented in the state are the majority of the New York banks as well as some of the larger firms from the Pacific coast. They all seem to see potential in this Sun Belt area. This increased supply of funds and increased competition may be additional stimulus for lower interest rates on homes, which could fall to 11 5 percent in April and 11 percent by year-end.

Given this climate of lower interest rates and increased liquidity among the financial institutions, a housing permit level in Maricopa County of about 30,000 can be expected for 1983, representing a 36 percent increase over 1982. This should reflect a strong single-family and good townhouse market and perhaps a very good apartment market. Nevertheless, one would expect a lot of turnover in the apartment area among tenants inasmuch as many will be moving into homes. Pima County can look for housing permits in the neighborhood of 5,100, about the same as in 1982.

Vacancies should remain low at about 2 percent for single-family homes in Maricopa County and 2 percent in Pima County; 5 percent for townhouses and condominiums in Maricopa County and a very healthy 1 percent in Pima County; with apartments in Maricopa County at 6 percent; and about 9 percent, which is on the high side, in Pima County.

The construction of office buildings in recent years has added to our economy and beautified our city. In 1978 the total rentable space was 9,505,000 square feet, and in 1982, it was 18,684,000 square feet. Few communities can boast of such growth. In 1981 leased space totaled 2,266,000 square feet; in 1982 it was 1,571,000 square feet. Now approximately 3,700,000 square feet are available to rent, with about a 20 percent vacancy. About 2,000,000 square feet are expected to be absorbed this year along with new additions of 2,500,000 square feet. With a continuing vacancy of 20 percent, it is a good time for renters to move and a time for managers to be good to their tenants.

Some interesting consequences result from an improving real estate cycle. Because of substantial reductions in the ability to produce materials and housing components, a material shortage could occur —probably not in 1983 but likely in 1984. In the face of possible shortages, yet with substantially declining rates of inflation, can one expect a resumption in the increasing values of real estate? In the near term, probably not. In some areas of the country, including Phoenix, a 15 to 20 percent decline in real estate values has occurred in recent months. Even if some increases are experienced, they are not likely to be of a type that would make speculation in real estate profitable. In all probability, real estate in general will operate on traditional economic concepts. That is, income must support equity and debt with less reliance on future profits from anticipated increases in value. Additionally, recently passed national legislation sustains the viability of the due-on-sale clause in loan instruments, thus negating much of the value increases of the past which were due in part to a transfer of wealth from the lender to the owner of the property.

In the face of national economic uncertainty, the continuing indications of unemployment, and under-utilization of capacity, can a real estate improvement such as the one described here be sustained in Arizona? Because of pent-up demands and the willingness of many of our citizens to take advantage of the current low interest rate, a full six-month rally can be expected in the real estate business. However, within that time frame, should the economy fail to improve substantially on a national level, the local housing industry improvement will be short lived. On balance, however, this writer's view is that within this six-month period, there will be a national turnaround of economic conditions and thus a sustained recovery in real estate and housing.

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[1]Information was obtained from the following sources: (1) Phoenix Metropolitan Housing Study, Mountain West Research — Southwest, Inc., (2) Pima County Real Estate Research Council, (3) Del E. Webb Realty and Management Company

ARIZONA'S BUSINESS OUTLOOK FOR 1983

Bob Swanson
Chairman, President and CEO
Del E. Webb Corporation

The Arizona State University business surveys conducted in preparation for this forecast are unique. They generate numbers and predictions that are not available from other sources, and they give an indication of management's current attitude about the future. As in past forecasts, the statistics are the composite result of a survey of thirty-five of the largest companies operating in Arizona in the manufacturing and natural resource areas.

Compared with last year's projections, this year's survey indicates that 1982 was significantly worse than the Arizona business community thought it would be a year ago. The Arizona economy stalled at a low level in 1982 and is unlikely to regain major momentum in 1983.

Specifically in 1982:

- Sales volume, which was expected to increase 13 percent, rose in the neighborhood of 6 percent.
- Sales backlog, which was anticipated to increase 16 percent, actually dropped, registering a decrease of just over 1 percent.
- Net income, which was expected to show an improvement in the area of 8 percent, only grew a marginal 1 percent.
- As a result of the sales and income picture, local employment (the companies surveyed have a combined work force of over 60,000) did not increase the forecasted 8 percent but only registered a minor 3 percent increase.
- Capital expenditures were even worse. The companies surveyed had forecast an increase in capital expenditures but actually spent 9 percent less to improve facilities in 1982 versus 1981. This alone is a strong indication of the retrenchment which is taking place in Arizona business.

Overall, this is not a good picture; most people will agree that 1982 has been one of the roughest years in recent Arizona business history.

But what about 1983? Current projections from the thirty-five companies surveyed seem to indicate that management is hoping for a better year in 1983 — but planning for a worse one:

- Sales are projected to rise more than 10 percent in 1983 versus 6 percent in 1982.
- Sales backlog is expected to increase 16 percent by the end of 1983.
- Net income is forecast to rise an average 15 percent, with only five of the thirty-five companies surveyed projecting a level net income and only 3 percent projecting poorer results in 1983.
- However, while the companies surveyed were hoping for these sales and income figures, they do not indicate a high degree of confidence in achieving them.
- Employment is expected to increase only a modest 3 percent.
- Capital expenditures for the companies surveyed are projected to drop a significant 16 percent in 1983, following a drop of 9 percent in 1982.

In summary, Arizona manufacturing and natural resource companies had a disappointing year in 1982. In 1983 they are hoping for an improvement, but are continuing to "batten down the hatches" in case economic conditions do not improve.

The thirty-five companies were also surveyed about their major national concerns and their significant local worries. On the national level there was almost unanimous agreement on the top three issues: the state of the international and national economic scene, interest rates, and defense spending. On the local level, the primary concern is water. The Arizona business community feels that water will be the deciding growth issue for the state in the remainder of the 1980s. Other key issues of local concern are the increase in health care costs and the increase in crime.

The statistics presented were collected in mid-November. However, ten of the major companies were recontacted in early December. Eight of the ten said that even with a pick-up in the housing area, they are now less optimistic about 1983 than they were a month ago.

While economic results on both the national and state levels have been grim for a longer period than most thought possible, this author suggests they will continue to be disappointing for at least another twelve months. A number of international economic problems as well as major national and local government budget problems could materially affect Arizona in 1983. Interest rates have not come down as far as they need to fall to truly stimulate a broad recovery. It is this writer's opinion that 1983 will be, at best, a mediocre year for the Arizona business community.

Arizona Business Scene

Home Prices and Housing Characteristics in Metropolitan Phoenix

The prices of homes sold in the Phoenix area declined slightly in the first ten months of 1982 compared with 1981 prices. These homes included single-family detached homes, townhouses, and condominiums. The median 1982 sales price was $64,010, 1.5 percent less than the 1981 median of $65,000. These median prices are considerably lower than those estimated in other studies, but are more accurate because of the large number of home sales used to compute the median: more than 43,000 in 1981 and more than 27,000 in the first ten months of 1982.

The median sales price is simply the midpoint of all sales prices and can be much different from the average or mean sales price. Because of a relatively small number of very expensive homes sold, the mean sales price in metropolitan Phoenix was higher than the median: $80,455 in 1981 and $77,736 in 1982. The median *sales price* is also not necessarily a good estimate of the median *value* of all homes in the metropolitan Phoenix area. Particularly in recessionary economic conditions as in the last two years, less expensive homes tend to sell more easily than more expensive homes.

The median sales price is quite consistent throughout the metropolitan Phoenix area, as illustrated in Table 1. Most areas have a 1982 median of between $63,500 and $69,310. Only the Scottsdale area is more expensive, while South Phoenix and the Westside are less expensive. The decline in prices between 1981 and 1982 was also relatively consistent among areas, with only Scottsdale and Sun City showing price increases in 1982. Although the median sales price is relatively constant throughout most of the Phoenix area, certain neighborhoods within each of the geographic areas shown in Table 1 may be much more or less expensive than the area as a whole. For example, within the East-Central Phoenix area (Thomas Road to Glendale Avenue, and the Black Canyon Freeway to the eastern city limits), the neigh-

TABLE 1

MEDIAN HOME SALES PRICE, METROPOLITAN PHOENIX

Area	*1981*	*1982*	*Percent Change*
South Phoenix	$46,900	$45,000	(4.1)
West Phoenix	50,000	50,000	(0)
North Phoenix	68,000	67,170	(1.2)
East-Central Phoenix	66,000	65,000	(1.5)
Mesa	65,000	63,500	(2.3)
Tempe	69,500	67,355	(3.1)
Scottsdale	92,700	93,000	.3
Glendale	69,800	69,310	(.7)
Sun City	65,950	66,500	.8
Chandler and Southeast Valley	66,950	66,759	(.3)
West Valley	57,900	54,227	(6.3)
Metropolitan Phoenix	65,000	64,010	(1.5)

Source: Computed by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University from data provided by Marketron Services Inc.

borhood around Camelback Mountain is much more expensive than most of the remainder of the area. Median prices are available upon request by zip code and by individual census tract.

The majority of homes sold in the Phoenix area in 1981 and 1982 were sold at prices relatively close to the median: more than 62 percent of all homes sold have had a price from $40,000 to $79,999. More than 10 percent of the homes sold in 1982 had a price of less than $40,000, while at the other extreme, less than 5 percent of the homes were sold for more than $150,000.

Single-family homes accounted for 86 percent of the sales in 1981 and 84 percent in 1982. The remainder of the sales were townhouses and condominiums. In most geographic areas, townhouses and condominiums were priced lower than single-family homes. In the entire metropolitan Phoenix area, the median sales price of townhouses and condominiums in 1982 was $57,000, compared to a median of $65,200 for single-family homes. In 1981, the difference was somewhat less: $60,500 for townhouses and condominiums and $65,900 for single-family homes. The sharper decrease in townhouse/condominium prices from 1981 to 1982 is probably a reflection of the effort to solve the affordability problem caused by high interest rates, particularly for first-time buyers. In 1982, the proportion of townhouses/condominiums that had a selling price of under $40,000 increased to 15 percent, from only 7 percent in 1981.

The decline in median sales price in 1982 is largely due to changes in the type of homes that were sold. In particular, a larger proportion of the 1982 sales were townhouses and condominiums, which generally are less expensive. Also, the size of both single-family homes and townhouses/condominiums declined in 1982. Adjusting for the decline in square footage from 1981 to 1982, the price per square foot actually increased very slightly in 1982. The median size of single-family homes sold in 1982 was 1,430 square feet, down from 1,444 square feet in 1981. The median size of townhouses and condominiums sold was smaller: 1,184 square feet in 1982, down from 1,212 square feet in 1981.

The smaller size of homes sold in 1982 can also be measured by the number of rooms. A larger percentage of the homes sold in 1982 were very small, with four or fewer rooms (one or two bedrooms). The majority of homes sold (63 percent) had five or six rooms (two or three bedrooms). Townhouses and condominiums generally have fewer rooms than single-family homes. In 1982, more than half had four or fewer rooms. More than 60 percent of the homes sold in both 1981 and 1982 had one and a half bathrooms; most of the remainder had either one or two bathrooms.

Refrigeration was the primary means of air conditioning. Less than 20 percent of all homes sold in 1981-1982 had evaporative cooling. Evaporative cooling was almost nonexistent in townhouses and condominiums. Despite the intense summer heat, however, 1 percent of the homes sold in metropolitan Phoenix had no air conditioning or only a window unit. Forced air, such as a heat pump or central gas furnace, was the dominant means of heating in the homes sold (more than 90 percent). Wall and floor furnaces comprise most of the remainder, although 2 percent of the homes sold had no heat.

More than three-fourths of the homes sold had a patio, most of which were covered. A smaller proportion of townhouses and condominiums had patios and fewer of those were covered. Over 90 percent of the homes sold had either a garage or a carport, with carports more common, particularly in townhouses and condominiums.

Most of the homes sold in the metropolitan Phoenix area in 1982 were quite new; over two-thirds were built since 1970. Only 22 percent of the single-family homes and almost none of the townhouses and condominiums were constructed prior to 1960. Nearly one-fourth of the single-family homes and 40 percent of the townhouses and condominiums sold were new or nearly new, having been built between 1980 and 1982.

Married couples purchased about 60 percent of all homes sold in 1981 and 1982. Corporation purchases (for investments, employee relocations, etc.) accounted for 17 percent of all sales in 1981, but only 8 percent in 1982. The balance of the home purchases were made by single people, who comprised 32 percent of all purchasers in 1982. Single females purchased 12 percent of all homes sold, and single males bought 20 percent. Single people, particularly females, buy a disproportionately large number of townhouses and condominiums: in 1982 nearly as many townhouses and condominiums were purchased by single people as by married couples.

The highest number of home sales occur in the outlying areas that have a great deal of new construction. Some of the most active areas for home sales include extreme northwest Phoenix, north Glendale, the northeast section of Paradise Valley in Phoenix, the western section of Maryvale in Phoenix, northwest Chandler, the southeast portion of Dobson Ranch in Mesa, and southeast Mesa.

Information on home sales is expected to be received on a monthly basis and will be reported regularly in *Arizona Business*.

A Survey of Arizona Business Conditions

HAROLD FEARON

The Arizona economy continued to weaken, as the long anticipated recessionary bottom refuses to arrive, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. Inventory levels, new orders from customers, production, and employment declined, as Arizona firms continued to retrench. The two positive notes are that relative price stability is continuing, and delivery time on shipments from vendors reversed its twelve-month downslide, signaling that vendor activity may be firming up at last. The low point of the recession still has not been reached, but the light at the end of the tunnel is now getting close.

The purchasing business survey now is in its twenty-first year of consecutive monthly reporting on the current status of the Arizona economy. Data are gathered through a questionnaire sent at the close of each month to purchasing managers throughout the state, asking them to indicate the direction of activity — higher, unchanged, or lower — on six key indicators of economic activity in the month just ended. Since these purchasing managers deal daily with the forces of supply and demand, they are able to provide timely and accurate information on current business trends, which enables economic turning points to be spotted.

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Prices paid for major purchased items advanced in November at a somewhat greater rate than in October, but the month-to-month increase rate still was small. Higher prices were reported by 20 percent of the purchasing managers; 65 percent said prices were unchanged; and 15 percent paid lower prices in November than in October. This marks the ninth consecutive month of relative price stability. The inflationary threat has been so diminished that it no longer should be a deterrent to federal policy makers as they deliberate the effects of actions to lower interest rates to spur demand.

Delivery time on shipments from vendors reversed its trend and rose slightly in November, following twelve consecutive months of contraction. Nineteen percent saw a lengthening of the time it took to get shipments from suppliers, while 14 percent received faster vendor deliveries. This is a signal that vendor business finally is firming up, as happens near the bottom of an economic trough.

Inventory levels of purchased materials registered a major drop, the largest in the past four months (since July), as firms continue to pare stocks in an attempt to bring them in line with the depressed levels of current business activity. Only 13 percent of the firms added to inventory, while 50 percent reduced stocks.

New orders received from customers fell again, for the sixteenth consecutive month. November's sluggish performance was the poorest in the past three months, with only 23 percent reporting a higher new order rate

compared to the 40 percent who received fewer new orders in November than in October. Yet, the new order decreases in the last few months have been smaller than those of many of the months earlier in the year, showing that the steepness of the downturn is moderating, although it still has not hit the bottom.

Production of Arizona firms dropped again, and at the same rate as in the previous month. Twenty-one percent raised output, but 33 percent lowered production. The October and November decreases were the smallest since last April, as the rate of downturn slows somewhat.

Employment fell again in November and at the same rate of the previous two months. Twelve percent of the firms added employees, but a much larger 37 percent slashed payrolls even further. The employment picture continues bleak, and the turnaround will probably not appear for some months.

Thus, the economic contraction continues, although the rate of decline has moderated somewhat. No general recovery has begun yet, but if interest rates continue to decline, the forces that will stimulate a recovery are slowly getting into place. The new year should see the beginnings of the upturn, although the recovery is not likely to be dramatic.

The results of the November purchasing survey are shown in Table 1.

TABLE 1

NOVEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (November compared to October)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	20	65	15
Delivery time from vendors	19	67	14
Purchased materials inventory level	13	37	50
New orders received	23	37	40
Production	21	46	33
Employment	12	51	37

Source: Survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Doctoral Dissertation Abstract

COLLEGE OF BUSINESS ADMINISTRATION
ARIZONA STATE UNIVERSITY

Editor's Note: *Our readers are often interested in research undertaken by doctoral candidates in the College of Business Administration at Arizona State University. Therefore, we occasionally include one or two abstracts of doctoral dissertations in* Arizona Business. *Readers who wish further information on any of these subjects may examine the complete dissertations in the ASU Hayden Library.*

RELATIONSHIP BETWEEN INFORMATION CONTENT OF MANAGERIAL FORECASTS AND FORECAST ATTRIBUTES

Barbara L. Reed

Recently, the accounting community has placed increased emphasis on future-oriented objectives. The Financial Accounting Standards Board has stated that the primary objective of accounting is to assist investors in predicting cash flows and has encouraged companies to disclose earnings predictions. When internal projections of future earnings deviate from past earnings trends, the Securities and Exchange Commission (SEC) requires companies to disclose events known to management that could cause past financial information not to be indicative of future earnings. By doing this, the SEC is using the difference between management's forecast and past earning trends as a criterion for determining disclosure requirements. This emphasis on management's forecast suggests that the forecasts contain information. To enhance the promulgation of sound disclosure requirements, a better understanding of forecast information is needed.

This study attempted to provide a better understanding of forecast information by analyzing the relationship between forecast information and several forecast attributes. The attributes examined were (a) industry, (b) company size, (c) past earnings variability, (d) similarity of management and analyst forecasts, and (e) deviation of management's forecasted earnings from both last year's earnings and a 10-year average of earnings. An understanding of these relationships should enhance the ability of the regulatory bodies to determine the types of companies that should be required to issue forecasts and the types of forecasts that should be issued.

The research design consisted of two parts. First, the information content of each managerial forecast was determined using abnormal security price change as a surrogate for information. Second, the relationships between forecast information and the attributes of interest were examined using scatter diagrams and regression analysis.

The results indicate that only the deviation of management's forecasted earnings from average earnings is statistically related to forecast information. These findings imply that the SEC has chosen an acceptable criterion for determining which companies have an obligation to issue forecasts.

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Metropolitan Phoenix Consumer Price Index

FOURTH QUARTER, 1982

For the first time since the first quarter of 1976, prices of goods and services in the Phoenix metropolitan area declined. The decrease of 2.0 percent during the fourth quarter of 1982 was the largest decline ever. Lower prices were common throughout the various categories of goods and services in the Consumer Price Index (CPI), including the three most important categories of *Food, Housing,* and *Transportation.* This fourth quarter decline, coupled with relatively small increases in the three previous quarters, results in a one-year increase of only 1.0 percent, the lowest inflation rate since the Metropolitan Phoenix CPI began in 1969.

The Consumer Price Index (CPI) for the Phoenix metropolitan area, on which these inflation figures are based, is prepared by the Bureau of Business and Economic Research, College of Business Administration at Arizona State University. The quarterly CPI is based on comprehensive surveys conducted by the Bureau in cooperative cosponsorship with Valley National Bank.

The category of *Food* declined slightly in the fourth quarter, decreasing 0.6 percent, the first decline since the fourth quarter of 1976. Both Food at Home and Food Away from Home decreased by 0.7 percent and 0.5 percent respectively. Increases for the quarter were found in Dairy Products, which rose 1.3 percent; Other Food at Home, which rose 0.7 percent; and Cereals and Bakery Products, which rose 0.7 percent. These increases were offset by large decreases in Meats, Poultry, Fish, and Eggs (-1.9 percent) and Fruits and Vegetables (-3.5 percent).

In the category of Dairy Products, the increase was spurred by a 13.6 percent increase in ice cream and related products. This was partially offset by decreases in fresh milk and cream (-0.7 percent) and butter (-0.4 percent). The overall moderate 1.3 percent increase was, nevertheless, the largest quarterly increase in the last six quarters.

The small rise in the Other Food at Home category was due to increases in miscellaneous prepared foods (2.0 percent) and nonalcoholic beverages (0.7 percent). Both fats and oils (-1.6 percent) and sugar and other sweets (-0.6 percent) showed lower prices.

Cereals and Bakery Products increased only slightly (0.7 percent). Bakery products showed an increase of 1.2 percent, with the largest changes occurring in fresh biscuits, rolls, and muffins (20.6 percent) and in white bread (-6.6 percent). Cereal products declined 0.8 percent overall.

In the subcategory of Meats, Poultry, Fish, and Eggs, a 4.4 percent increase occurred in egg prices, and pork prices increased 2.6 percent, spurred largely by increases in noncanned ham (9.0 percent) and bacon (8.6 percent). These increases were offset by large declines in prices of beef (-6.5 percent), poultry (-4.6 percent), and other meats (-1.1 percent). The decline of 6.5 percent in the beef category is the largest since the third quarter of 1979.

Fruits and Vegetables dropped in price for the second straight quarter. As a result, prices are lower now than they were one year ago. The fourth quarter decline was due to lower prices in each of the subgroups: fresh fruits dropped 2.4 percent; fresh vegetables dropped sharply at 7.1 percent, leaving prices 14.2 percent below the level of one year ago; processed fruits declined 3.2 percent, the only decline in at least four years; and processed vegetables decreased 0.9 percent, the largest decline in at least four years.

The *Housing* category declined by 4.2 percent in the fourth quarter, the largest decline in the history of the Metropolitan Phoenix CPI. As a result, housing costs are lower now than one year ago. Declines were widespread throughout the *Housing* category, occurring in all three

main subcategories: Shelter, Fuel and Other Utilities, and Household Furnishings and Operations.

Shelter costs declined for the third consecutive quarter. The 5.0 percent decrease was led by a 13.4 percent drop in mortgage interest rates, the fourth consecutive quarter of lower rates, which total 26.7 percent over the last year. Home purchase prices also declined by 1.3 percent, the largest decline since the third quarter of 1977. Although Residential Rent did increase by 0.4 percent in the fourth quarter, it was the smallest increase since the second quarter of 1978.

The cost of Fuel and Other Utilities decreased by 5.3 percent in the fourth quarter, following several quarters of relatively large increases. The decline was led by a 16.8 percent drop in the price of electricity, due to both the seasonal switch to winter rates and a downward fuel cost adjustment. Electricity costs are only 2.1 percent higher than one year ago. Other utilities and public services also were lower in cost in the fourth quarter, by 0.3 percent.

Household Furnishings and Operations also posted a fourth quarter decline of 0.4 percent. Only the fourth quarter of 1975 showed a larger decline. Lower prices were again widespread in this category, occurring in furniture, housekeeping supplies, housekeeping services, and television, radio, and sound equipment. An increase in the cost of household appliances slightly offset these declines.

Apparel and Upkeep costs declined by 1.2 percent in the fourth quarter, the second consecutive quarter of lower prices. These declines have reduced the total change during the past year to only 2.0 percent. As in the third quarter, lower prices were common throughout this category, with declines in Men's and Boys' Apparel (-0.5 percent), Women's and Girls' Apparel (-1.2 percent), and Footwear (-1.0 percent).

Transportation costs decreased by 0.8 percent in the Phoenix area during the fourth quarter. Private Transportation costs decreased by 0.5 percent with a 1.2 percent increase in new car prices more than offset by a 4.0 percent decrease in used car prices. Gasoline prices fell by 2.2 percent after a relatively large increase last quarter; this was the fourth decline in the last five quarters. Vehicle maintenance and repair costs rose 6.0 percent, the largest increase since the second quarter of 1977. Vehicle finance charges fell 6.1 percent, the largest decline ever and the third straight quarter of lower charges. Public Transportation posted a price decrease of 6.9 percent following a comparatively large increase last quarter. A drop in airline fares (-11.5 percent) was primarily responsible.

Medical Care costs in the Phoenix metropolitan area rose only 1.3 percent this quarter following a record large percentage increase in the third quarter. Professional services rose by 0.8 percent, due to an increase of 2.3 percent in physicians' services. Health insurance rose by only 1.5 percent this quarter but is 23.6 percent higher than last year. Prescription drugs rose by 2.2 percent while nonprescription drugs and medical supplies fell by 0.3 percent. The costs of hospital and other medical care services rose by 4.7 percent, due primarily to increases in the cost of hospital rooms.

Entertainment costs rose in the fourth quarter by 2.3 percent, continuing the pattern of price increases in the winter season. The fourth quarter's increase is due almost entirely to very large increases in golfers' fees, which caused the category of admissions, fees, and other entertainment services to increase by 6.8 percent. The cost of sporting goods and equipment increased by only 0.2 percent, while reading materials, and toys, hobbies, and entertainment declined.

Other Goods and Services increased by 2.0 percent, due primarily to increases in tobacco products and smoking accessories (7.9 percent). The cost of personal care increased only 0.5 percent, while each of the other subgroups posted small decreases.

COMPARISON CITIES

In the last quarter, price decreases and small price increases were common in the comparison areas of Chicago, Los Angeles, and the United States as a whole, as well as in the Phoenix area. However, price decreases generally were greater and price increases were smaller in Phoenix than in each of the comparison areas, except for the *Entertainment* category. In particular, considerably better performance occurred in Phoenix in the categories of *Housing*, *Apparel and Upkeep*, and *Other Goods and Services*. Overall, the 2.0 percent decline in the Phoenix area surpassed the 0.2 percent decline in Los Angeles and the 0.3 and 0.4 percent increases in the United States and Chicago, respectively.

The percentage change in *All Items* from one year ago in Phoenix (1.0 percent) is less than that of the United States (4.6 percent), Chicago (6.2 percent), and Los Angeles (2.4 percent). The one-year increase in the Phoenix metropolitan area has been less than in the comparison cities in the categories of *Housing*, *Transportation*, and *Other Goods and Services*. However, in *Medical Care*, the increases over the past year in Phoenix have been greater than in the comparison cities.

METROPOLITAN PHOENIX CONSUMER PRICE INDEX
FOURTH QUARTER, 1982
(1977=100)

Group	Last Qtr. Index	This Qtr. Index	Percentage Change	Year Ago Change	1969 Base Index
ALL ITEMS	170.6	167.2	-2.0	1.0	259.8
Food and Beverages	154.7	153.8	-0.6	2.7	240.4
Food	155.2	154.3	-0.6	2.3	245.3
Food at Home	155.2	154.2	-0.7	2.2	255.9
Cereals and Bakery Products	156.9	158.0	0.7	1.7	257.3
Meats, Poultry, Fish, and Eggs	157.9	154.8	-1.9	3.2	246.3
Dairy Products	150.2	152.2	1.3	3.8	229.7
Fruits and Vegetables	151.0	145.7	-3.5	-2.3	251.4
Other Food at Home	145.4	146.4	0.7	3.0	283.5
Food Away from Home	152.7	152.0	-0.5	2.4	223.4
Housing	187.9	180.0	-4.2	-1.8	260.5
Shelter	203.2	193.1	-5.0	-4.8	268.2
Residential Rent	144.8	145.3	0.4	5.1	196.5
Homeownership	224.1	210.1	-6.2	-7.0	280.7
Homeowners' Financing, Taxes and Insurance	230.7	215.5	-6.6	-7.8	0.0
Mortgage Interest Rates	176.6	152.9	-13.4	-26.7	0.0
Home Purchase	195.2	192.6	-1.3	4.5	0.0
Fuel and Other Utilities	157.6	149.2	-5.3	9.7	297.4
Gas and Electricity	186.4	166.3	-10.8	15.7	0.0
Household Furnishings and Operations	141.0	140.4	-0.4	3.4	217.6
Apparel and Upkeep	133.2	131.6	-1.2	2.0	192.0
Transportation	164.7	163.3	-0.8	-0.4	272.1
Private Transportation	161.9	161.1	-0.5	0.0	268.5
New and Used Cars	155.6	153.3	-1.5	3.9	0.0
Gasoline	209.1	204.5	-2.2	-6.9	0.0
Public Transportation	217.2	202.3	-6.9	-6.8	327.0
Medical Care	179.3	181.6	1.3	16.0	399.9
Entertainment	154.9	158.4	2.3	5.2	230.6
Other Goods and Services	139.6	142.4	2.0	7.8	256.1

UNITED STATES AND COMPARISON CITIES

Group	United States		Chicago		Los Angeles	
	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago
ALL ITEMS	0.3	4.6	0.4	6.2	-0.2	2.4
Food	-0.4	3.4	0.4	2.2	0.9	1.8
Food at Home	-0.9	2.7	-1.1	1.3	0.8	4.4
Food Away from Home	0.9	4.8	0.7	3.8	1.2	7.5
Housing	-0.3	4.9	0.6	11.0	-1.0	0.2
Shelter	-1.0	4.1	1.6	13.5	-1.3	-1.0
Fuel and Utilities	1.7	9.8	-4.6	8.5	-3.1	11.6
Household Furnishings and Operations	0.7	3.5	0.5	1.8	2.2	9.8
Apparel and Upkeep	1.9	2.1	-0.1	-1.6	1.2	-4.0
Transportation	-0.1	2.3	-1.0	-0.1	-0.9	3.6
Medical Care	2.7	11.0	2.5	10.0	1.7	9.9
Entertainment	1.1	5.8	-0.9	3.9	0.3	2.3
Other Goods and Services	6.0	11.3	6.5	9.9	5.5	11.5

A 0.0 in the last column indicates that 1969 base index is not available.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University, in cooperative cosponsorship with Valley National Bank. Data on United States and Comparative Cities from the Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.

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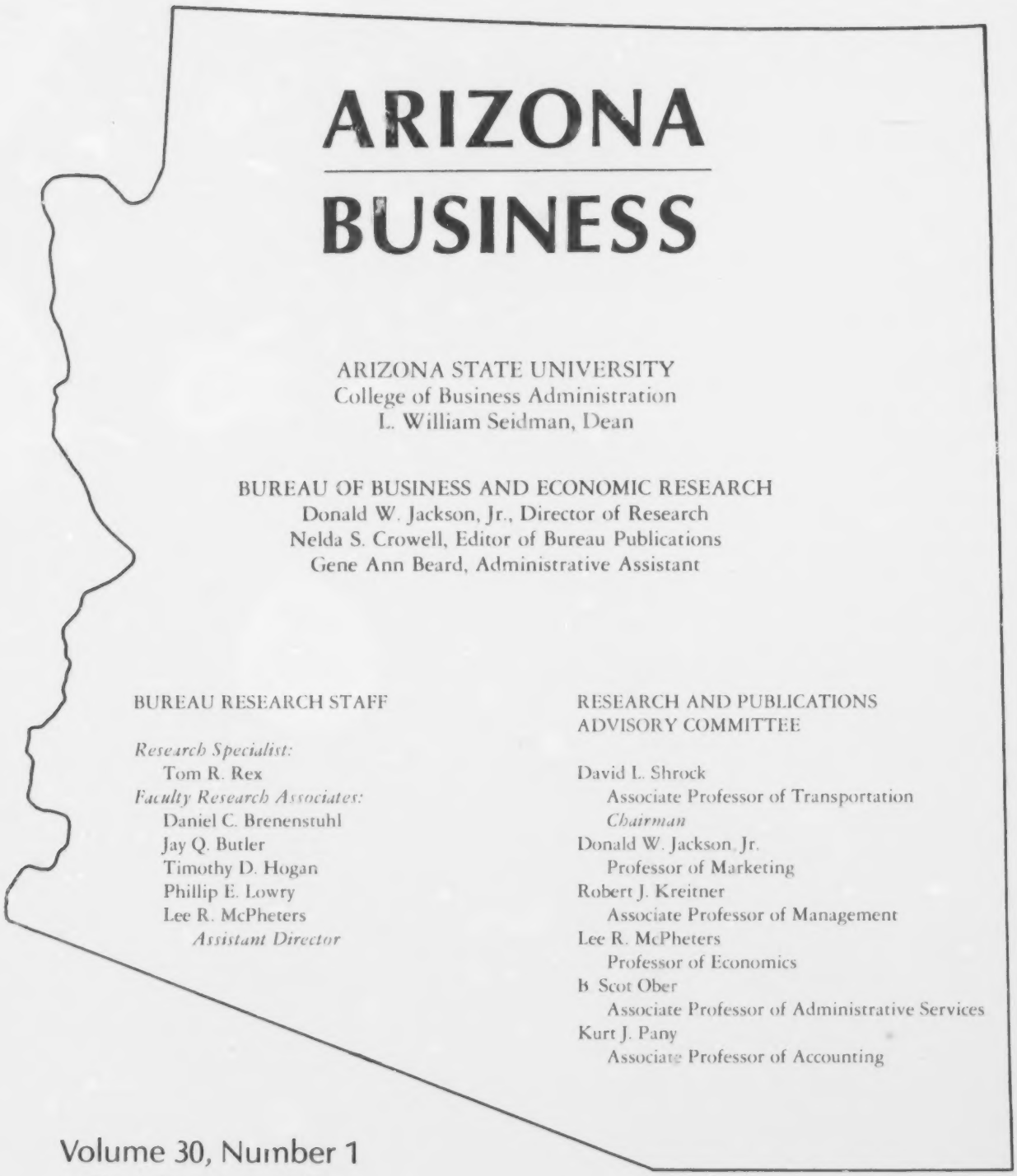

ARIZONA BUSINESS

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Report To The Reader

With this issue, *Arizona Business* begins a transition period as the College of Business Administration approaches fiscal year 1983-1984. For the remainder of this fiscal year (through June) the journal will be published quarterly. Its future course will be determined as plans for the development of the College of Business Administration go forward.

The Bureau of Business and Economic Research performs several vital functions in compiling and analyzing certain Arizona data that are unavailable elsewhere. The Consumer Price Index and the Construction Activity reports are particularly important to various segments of the state. In order to continue to serve our readers adequately, we will publish the quarterly data as soon as it is available. We will also have the information accessible by telephone for those who need more current data. Readers may obtain the statistics by calling Tom Rex, Research Specialist for the Bureau, at (602) 965-3961.

The future of the College of Business Administration looks bright. The new building, which more than doubles the present space, is well underway and is expected to open in time for the spring semester of 1984. The building dedication will coincide with the beginning of ASU's Centennial celebration. As the University develops its theme of "Excellence for a New Century," the College of Business Administration works toward enhancing that excellence.

The Social and Economic Impact of Phoenix Area Winter Residents

STEPHEN K. HAPPEL
TIMOTHY D. HOGAN
DEBORAH SULLIVAN

Out-of-state visitors are a major force in Arizona's economy. *Arizona Tourism and Travel*, a 1980 study conducted by the ASU Bureau of Business and Economic Research for the Arizona Office of Tourism,[1] estimates that a total of 14.7 million visitors came to Arizona during fiscal year 1979-1980 and spent more than three billion dollars while in the state. Included in the total are tourists, out-of-state students, business representatives, and government officials. Also included are many retired people — "snowbirds" — fleeing the frost belt states and Canada during the winter months. These part-time residents are probably the most visible of all the out-of-state visitors to the greater Phoenix area. Although interviews with city planners in Mesa, Scottsdale, and Apache Junction indicate that attempts are made to determine local inflows, relatively little is known about the overall extent of winter population migration and its economic impact in the Phoenix area.

More than 73,000 people in the Phoenix area can be classified as winter residents, sometimes known locally as "snowbirds." These residents need road, hospital, and other public services. They also consume goods and services, providing a direct economic contribution of $136 million.

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The purpose of this article is threefold: First, several estimates of visitors to the Phoenix area, as well as some of their demographic and economic characteristics, are reviewed and evaluated. Next, a number of social and economic indicators are discussed that show the impact of winter seasonal migration on various services in selected communities. Finally, using the Phoenix Retired Couple's Budget figures,[2] the economic impact in terms of total dollars spent, the way this money is spent, and taxes collected in Arizona are estimated for winter migrants to the Phoenix area in 1981.

ESTIMATES AND DEMOGRAPHIC CHARACTERISTICS

Table 1 presents data from *Arizona Tourism and Travel* for airline and highway tourists visiting Maricopa County. The number of tourists and their total expenditures are ranked by quarter for fiscal year 1979-1980. The number of tourists and their expenditures are greatest in the first and fourth quarters. Thus the winter seasonal effects are evident, with nearly 54 percent of total visitors and 66 percent of total expenditures occurring at this time. Also reported are the responses describing the purpose of the visit to Maricopa County, the type of lodging used, and whether the individual is retired or not retired.[3] While only one percent of airline tourists looked upon themselves as seasonal residents, 19 percent (approximately 382,000) of the highway tourists classified themselves in this category. The

TABLE 1
HIGHWAY AND AIRLINE TOURISTS,
MARICOPA COUNTY
Fiscal Year 1979-1980

	Airline	*Highway*	*Total*
Number of Visitors			
1980 - I	199,900	543,000	742,900
1979 - IV	175,000	519,800	694,800
1980 - II	156,100	473,000	629,100
1979 - III	130,500	464,400	594,900
Total	661,500	2,000,200	2,661,700
Tourist Expenditures (in $ millions)			
1980 - I	224,542.4	318,815.4	543,357.8
1979 - IV	186,033.2	251,280.2	437,313.4
1980 - II	146,269.7	133,297.6	279,566.7
1979 - III	113,862.0	115,298.4	229,160.4
Total	$670,707.3	$818,691.0	$1,489,398.3
Purpose of Visit to Maricopa County (percent)*			
Visit friends/relatives	35.6	58.4	—
Vacation	11.0	21.8	—
Seasonal resident	1.1	19.1	—
Business	41.4	14.4	—
Convention	25.7	6.2	—
Type of Lodging (percent)			
Friends	29.0	45.6	—
Hotel/motel	68.0	37.9	—
RV Park/campground	0.2	11.7	—
Hotel/friends	2.4	3.0	—
Other	0.4	3.8	—
Working Status (percent)			
Not retired	92.1	66.0	—
Retired	7.9	34.0	—

*Percent totals are greater than 100.0 because of multiple responses.

Source: Tourism and Travel in Arizona, 1981, Tables II-6, II-7, V-8, V-9, V-16, V-17, V-18, V-19.

greater degree of temporary residency among highway tourists is reflected in both retirement status and in the choice of living accommodations other than hotel or motel while in Arizona.

Table 2 presents data on part-time households in the Phoenix area from Western Savings' *Foresight Eighty*.[4] The major advantage of this study is that the results are disaggregated by city of destination within the Phoenix area. For the 1979-1980 fiscal year, 22,800 (4 percent) of the fixed base households in the Phoenix area are estimated to be occupied by part-time residents. In addition, there are an estimated 12,800 travel trailer households.[5] The largest concentrations of the 35,600 total households and the estimated 73,000 people occupying them are found in Scottsdale and the eastern part of the metropolitan area (East Mesa and Apache Junction).

Analysis suggests that 73,000 part-time residents probably represents a low estimate of the number of part-time winter residents in the Phoenix area. The time frame of the *Foresight Eighty* survey would have missed those who came after the holidays, went home for the holidays or who moved in after a space or housing unit was vacated. The total also does not include those who stay with family or friends or in the 25,000 rooms in resorts, motels, and hotels.

The large majority of the part-time households in *Foresight Eighty* consist of two members, both typically retired. Yet there are some significant differences in lifestyles and living arrangements across the metropolitan area. The percentage of mobile homes occupied by part-time residents is estimated to vary from 2

TABLE 2
PART-TIME RESIDENTS BY CITY, PHOENIX AREA
1979-1980

	Number of Part-time Households	*Part-time Households as Percent of Total Households*	*Percent of Part-time Households With Two Members*	*Percent of Part-time Males, Retired*	*Percent of Part-time Residents in Mobile Homes*	*Percent of Part-time Households with Incomes Greater than $25,000*	*Number of Households in Travel Trailers**
METRO TOTAL	22,800	4.0	72.0	76.0	34.0	24.0	12,800
Phoenix	6,800	2.0	57.0	62.0	29.0	18.0	400
Sun City	3,300	12.0	76.0	88.0	2.0	39.0	—
Glendale	600	1.0	62.0	81.0	41.0	33.0	—
Tempe	1,300	3.0	58.0	73.0	30.0	13.0	700
Scottsdale	8,000	8.0	70.0	56.0	14.0	49.0	600
Mesa and Apache Junction	9,400	10.0	88.0	91.0	62.0	10.0	11,100

*In addition to the totals listed in column 1. No interviews were conducted at travel trailers, so travel trailer data are not included in columns 2 - 6.

Source: Western Savings and Loan Association, *Foresight Eighty*.

percent in Sun City to over 60 percent in Mesa/Apache Junction. Moreover, there are 11,100 part-time travel trailer households in Mesa/Apache Junction compared with 1,700 in the rest of the Valley. The differences in socioeconomic status are also considerable. Only 10 percent of the Mesa/Apache Junction part-time residents living in fixed based housing units had yearly incomes greater than $25,000, while the percentages for Sun City and Scottsdale are 39 and 49, respectively.

Table 3 compares 1980 census data on nonpermanent residents in Maricopa County and Arizona with the nation as a whole.[6] Only nonpermanent residents staying in housing units occupied entirely by persons with a usual home elsewhere are included in this data. As was the case with *Foresight Eighty*, persons staying in the house of a permanent resident are not included, nor are persons staying in hotels, motels, or campgrounds, and so again we think the numbers are extremely conservative.

Of the estimated 300,586 nonpermanent U.S. households in 1980, 21,286 (7 percent) are found in Arizona, ranking Arizona third in state totals behind Florida (132,257) and California (23,392). In turn, 8,648 of the Arizona total households are found in Maricopa County and 1,518 in Pinal County, with the vast majority of these households located in the Apache Junction area. The average size nonpermanent household is approximately 1.8 persons at the national, state, and county levels. But a significantly larger percent of nonpermanent households in Arizona and Maricopa County consist of two members compared to the national average, suggesting that a large number of Arizona visitors are retired. This is confirmed in the age composition figures, where the percentage of nonresidents 65 and older is greater for Arizona and Maricopa County than the nation. Unfortunately, the census data contain no additional information on the social and economic characteristics of the nonpermanent households.

TABLE 3

CENSUS ESTIMATES FOR NONPERMANENT RESIDENTS
Maricopa County, Arizona, United States

	Maricopa County	*Arizona*	*United States*
Totals and Percentages			
Number of nonpermanent households	8,648	21,286	300,586
Percent of national total	2.9	7.1	100.0
Number of persons in nonpermanent households	16,032	39,170	547,100
Percent of national total	2.9	7.2	100.0
Household Composition			
Average size household	1.85	1.84	1.82
Percent of households with two members	69.4	67.9	46.4
Age Composition			
Percent of nonpermanent residents age 65 and older	54.1	51.4	31.7

Source: 1980 Census of Population, Supplementary Reports, PC80-S1-6, April, 1982.

In order to derive more complete information on the characteristics and activities of Arizona's snowbirds, a small survey was conducted of female residents in a mobile home park and in a travel trailer park in the Apache Junction area in November, 1980.[7] Selected information from this survey is found in Table 4. Over 90 percent of the women are retired. Relative to older U.S. women as a whole, the women in this survey are better educated and are more likely to live with a spouse. While household income varies considerably, both the mobile home group and the travel trailer group have a lower income profile than for all U.S. families with women 55 and over.[8]

In general, both groups are quite active in recreational activities[9] and travel to other points of interest in the state — although rarely to participate in activities in Phoenix. Finally, in contrast to the commonly held belief that the seasonal migration is an intermediate step toward permanent migration, only 12.3 percent of the mobile home respondents were even considering becoming a resident of Arizona. While a higher proportion of the travel trailer respondents (25 percent) were considering becoming residents of Arizona, few of them were contemplating a move to a permanently fixed housing unit.

IMPACT OF WINTER VISITORS ON LOCAL COMMUNITIES

As seen in the *Foresight Eighty* data (and readily apparent to most Valley residents), the largest concentrations of part-time winter residents in the Phoenix area are found in Scottsdale and Mesa/East Mesa/Apache Junction.[10] Perhaps the most noticeable effect is the increased traffic congestion in the east valley during the winter months. The Maricopa Association of Governments conducted a monthly traffic survey at various stations in the county during 1979.[11] Table 5 presents the results for two survey sites — Main Street/Apache Trail, west of Center in Mesa and Scottsdale Road, near

TABLE 4

CHARACTERISTICS OF WINTER VISITORS IN TRAVEL TRAILER PARKS AND MOBILE HOME PARKS NOVEMBER, 1980

	Travel Trailer (Percent)	*Mobile Home (Percent)*	*U.S. Women 55 and Older (Percent)*
Number of respondents	(159)	(65)	—
Percent retired	99.0	91.0	—
Marital status (N)	(159)	(65)	—
Never married	0.6	0.0	5.6
Married	91.2	78.5	52.8
Widowed	8.2	21.5	37.0
Divorced	0.0	0.0	4.6
Current household income (N)	(135)	(48)	—
Under $5,000	9.6	12.5	12.3
$5,000 - $14,999	66.6	47.9	46.9
$15,000 - $24,999	20.0	29.2	22.7
$25,000 or more	3.7	10.4	18.1
			U.S. Women 65 and Older (Percent)
Education (N)	(158)	(65)	—
Grammar school or less	5.7	3.1	44.1
Some high school	16.4	18.5	16.7
High school graduate	46.8	33.8	23.4
Some college	24.2	15.4	8.8
College graduate	1.9	16.9	7.0
Post graduate	5.0	12.3	
Frequency of participation in recreational activities (N)	(153)	(64)	—
Daily	33.5	56.2	—
Weekly	58.5	37.5	—
Three times per month	1.3	1.5	—
Monthly	0.0	3.1	—
Occasionally	6.5	1.5	—
Visit other places in Arizona (N)	(157)	(64)	—
Frequently	21.0	17.2	—
Sometimes	60.5	68.8	—
Rarely	13.4	12.5	—
Never	5.1	1.5	—
Participation in other activities in Mesa (N)	(154)	(62)	—
Frequently	5.2	11.3	—
Sometimes	16.2	29.0	—
Rarely	16.2	17.7	—
Never	62.3	41.9	—
Participation in other activities in Phoenix (N)	(154)	(63)	—
Frequently	0.0	8.0	—
Sometimes	7.1	9.7	—
Rarely	11.7	33.9	—
Never	81.2	48.4	—
Percent planning to become Arizona resident	25.0	12.3	—

Source: Deborah Sullivan and Sylvia Stevens, "Snowbirds: Seasonal Migrants to the Sunbelt," *Research on Aging*, 4, 1982, pp. 159-177.

TABLE 5

MONTHLY TRAFFIC COUNTS IN MESA AND SCOTTSDALE, 1979

	Average for Peak Volume Hour		*Seasonal Index*		*County Average*
	Mesa	*Scottsdale*	*Mesa*	*Scottsdale*	
January	3326	2658	1.31	1.10	1.11
February	3292	2649	1.32	1.11	1.12
March	4044	2604	1.69	1.09	1.15
April	2182	2593	.94	1.13	1.13
May	2184	2377	.90	1.04	.97
June	2005	1836	.84	.78	.94
July	1645	2270	.71	.96	.86
August	2085	2159	.82	.85	.88
September	1664	2346	.70	1.01	.93
October	2018	—	.84	—	1.00
November	2298	2311	.93	.93	1.01
December	2494	2380	.99	—	1.00

Source: Maricopa Association of Governments, *Monthly Traffic Counts Stations, 1979*, August, 1980. The Mesa survey site was located at Main Street/Apache Trail and the Scottsdale site on Scottsdale Road near Thomas Road.

Thomas in Scottsdale. The first two columns report the monthly averages on the number of cars passing the Mesa and Scottsdale stations during the peak-volume hour of each day. The differences are substantial, ranging from a low of 1,664 in July to a high of 4,044 in March for Mesa (a difference of 143 percent) and from 2,658 in January to 1,836 in June for Scottsdale (a difference of 45 percent). The last three columns provide the monthly indexes for the two stations and the county. The average monthly index for the year equals 1.00. Even though the monthly differences for Scottsdale are not as great as for Mesa (in part because Scottsdale Road is a main north-south thoroughfare for Valley residents), a marked seasonal pattern is still evident for the two reporting stations and in the county as a whole, with the peak times occurring in the first four months of the year. For city planners, such seasonal patterns are a major concern since traffic flow patterns and police needs are based on peak demand, even though manpower requirements fall sharply during the summer months.

Another area affected by part-time residents is the health care sector. The variation in occupancy rates for Mesa Lutheran and Scottsdale Memorial hospitals are clearly visible in Table 6 and, for the months in which data is available, exceed the seasonal pattern for the country as a whole. The U.S. figures indicate a 7 percent difference between January (or March) and August rates, but the January (or March) and August differences for

TABLE 6

OCCUPANCY RATES, UNITED STATES, MESA LUTHERAN AND SCOTTSDALE COMMUNITY HOSPITALS: 1975, 1976

	*Mesa Lutheran Percent Occupancy**		*Scottsdale Memorial Percent Occupancy**		*United States 1976 Percent Occupancy**
	1975	*1976*	*1975*	*1976*	
January	90.0	90.9	80.2	84.9	77.4
February					78.9
March	97.0	96.5	78.8	91.6	77.4
April					75.9
May					74.4
June					73.7
July					72.2
August	77.7	73.9	68.1	68.9	72.2
September					72.9
October					74.4
November					74.4
December					69.1

*Only January, March, and August figures are available.

Source: P.J. Phillip and S.J. Dombrosk, *Seasonal Patterns of Hospital Activity*, 1979; and Central Arizona Health Systems Agency, *Hospital Bed Plan of the Central Arizona Health Systems Agency: 1977-1983*, 1977.

both Mesa Lutheran and Scottsdale Memorial are at least 15 percent.

Recent data on emergency room admissions at Mesa Lutheran further confirm the effect of seasonal migration.[12] Available monthly admissions totals, beginning in March, 1981, are reported in Table 7. The March-May differences are 18 percent for both 1981 and 1982, and the most extreme difference is 42 percent between the February and June monthly totals for 1982.

Winter visitors also have substantial seasonal impacts upon usage of other public facilities and utilities in the Phoenix area. For example, sewage flow data collected by the City Planning Office of Scottsdale between 1976 and 1980 are found in Table 8, and once again we find strong seasonality. The first four months of the year, and to a lesser extent December, have notably higher monthly indexes than the remaining seven months.

While winter residents need road, hospital, and other public services, they also contribute to local and state tax revenues. Table 9 presents the seasonal indexes for sales tax revenues in Mesa between June, 1977 and May, 1981. Of course, the high values for December are largely the result of Christmas buying, but beyond that, a strong seasonal pattern remains that coincides with winter migration. The same is true in Table 10 for the seasonal indexes for Scottsdale's restaurant sales taxes and rental sales taxes (with a large component being apartment and other housing rentals).

TABLE 7

EMERGENCY ROOM ADMISSIONS MESA LUTHERAN HOSPITAL, 1981-1982 (available months)

Month	*Monthly Admissions*
1981	
March	1,851
April	1,698
May	1,564
November	1,649
December	1,605
1982	
January	1,807
February	1,901
March	1,804
April	1,582
May	1,529
June	1,339

Source: Unpublished data from Arizona Emergency Medical Systems, Inc.

TABLE 8
MONTHLY SEWAGE FLOWS IN SCOTTSDALE 1976-1980

	Average Monthly Sewage, 1976-1980 Millions of Gallons Per Day	*Seasonal Index* For the Month*
January	8.70	1.09
February	9.03	1.14
March	8.82	1.11
April	8.35	1.05
May	7.88	.99
June	7.32	.92
July	7.14	.90
August	7.65	.96
September	7.42	.93
October	7.54	.95
November	7.43	.93
December	8.07	1.02

*Index equals the monthly average, 1976-1980, divided by the overall monthly average, 1976-1980.

Source: City of Scottsdale Planning Office, 1982.

TABLE 9

SEASONAL INDEXES FOR SALES TAX REVENUES
MESA, 1977-1981 (by fiscal year)

	1977/78	*1978/79*	*1979/80*	*1980/81*
June	.80	.81	.92	1.05
July	.87	.85	.85	.80
August	.85	.84	.88	.89
September	.90	.95	.96	.85
October	.89	.88	.96	.78
November	1.00	.91	1.09	1.25
December	1.28	1.30	1.31	1.15
January	1.03	.99	1.00	1.06
February	1.08	1.02	.99	1.00
March	1.10	1.29	1.12	1.04
April	1.14	1.10	.95	.98
May	1.05	1.03	.98	1.15

Source: City of Mesa, *Planning and Community Development*, January, 1982. Indexes are calculated by taking the monthly average for each year and dividing it into the actual monthly sales tax revenues for that year.

TABLE 10

SEASONAL INDEXES FOR RESTAURANT SALES TAXES AND RENTAL SALES TAXES, SCOTTSDALE, 1971-1980 AVERAGE

	*Restaurant Sales Taxes**	*Rental Sales Taxes**
January	1.07	1.03
February	1.18	1.05
March	1.23	1.12
April	1.12	1.01
May	1.03	1.00
June	.89	.95
July	.85	.96
August	.86	.89
September	.87	1.03
October	.92	.96
November	.96	.97
December	1.02	1.05

*Index equals the monthly value divided by the monthly average for the year.

Source: City of Scottsdale Planning Office, 1982.

ESTIMATED IMPACT OF PART-TIME WINTER RESIDENTS IN THE PHOENIX AREA

As stated previously, the Bureau of Business and Economic Research has analyzed the total impact of out-of-state visitors upon the local economy, but the *Arizona Tourism and Travel* study concentrated primarily upon short-term visitors, such as those attending conventions, and/or vacationing in the state. Therefore, survey information on the length-of-stay or spending patterns of these visitors is not specifically relevant for estimating the economic impacts of seasonal residents living in the Phoenix area for one or more months during the winter season.

An alternative method for deriving estimates of the economic contribution of winter visitors relies upon expenditure information compiled for the 1981 Phoenix Retired Couple's Budget.[13] That study estimated that a hypothetical retired couple required $11,488 in 1981 in order to maintain a moderate standard of living in the Phoenix area. Such a hypothetical couple is assumed to be self-supporting and to live in a separate household. While not true of every part-time winter visitor household, information relating to seasonal households collected by both the *Foresight Eighty* survey and the 1980 census indicate that the large majority of the part-time population living in separate households consists of retired couples. For the purpose of deriving initial expenditure estimates, we will use the Retired Couple's Budget figure as the basis of our calculations.

Information from the *Foresight Eighty* survey further implied that the typical seasonal resident in the Phoenix area stayed approximately four months. Taking the annual budget figure of $11,488 and assuming an average length-of-stay of one-third year, this implies an expenditure figure of $3,829 per snowbird household in 1981. Based upon a total population of 35,600 part-time winter households in the Phoenix area (22,800 in fixed based housing units and an additional 12,800 residing in travel trailers), total dollar expenditures by these snowbird households are therefore estimated to have been $136 million in 1981. Table 11 provides both per couple expenditure estimates by spending category for a four-month stay derived from the Phoenix Retired Couple's Budget and total expenditure estimates based upon a population of 35,600 seasonal households. Food and shelter were the dominant expenditure categories, generating $39 million and $45 million respectively. Besides the direct economic contribution of $136 million in 1981, this spending could be expected to have generated additional multiplier effects as the dollars spent circulated through the Phoenix area economy. Finally, it is estimated that these households paid $2.3 million in sales tax in 1981.

Given that the *Foresight Eighty* surveyed only those seasonal residents residing in separate housing units, the number of households utilized to calculate these expenditure estimates is in all likelihood much too low. Furthermore, total spending by many of the part-time households is likely understated since a sizeable propor-

TABLE 11

ESTIMATES OF THE DOLLAR EXPENDITURES OF SNOWBIRDS BY SPENDING CATEGORY, PHOENIX METROPOLITAN AREA, 1981

	Estimated Expenditures Per Snowbird Couple	*Total Estimated Expenditures (in millions)*
Food	$1,102	$ 39.2
Shelter	1,259	44.8
Transportation (local)	427	15.2
Clothing	170	6.0
Personal Care	136	4.9
Medical Care	331	11.8
Other Items	404	14.4
Total Budget	3,829	136.3
Sales Tax	190	2.3

Source: Derived from Retired Couple's Budget figures in Robert T. Keim and Susan B. Swirsley, "Phoenix Retired Couple's Budget for 1981," *Arizona Business*, September/October 1982, pp. 15-17.

tion are wealthier than the hypothetical retired household employed to derive the Retired Couple's Budget figures. Because the dollar expenditure estimates are based upon conservative assumptions, they almost certainly represent a lower bound estimate of the economic contribution of the part-time winter population to the Phoenix area economy.

SUMMARY

In one sense this exploration of part-time (seasonal) households in the Phoenix metropolitan area reaffirms commonly held conceptions about winter residents. They tend to be elderly retirees from the north, living predominantly in two-person households. They flock to the Phoenix area primarily between January and April and they cause planning problems for local officials in a variety of areas. At the same time, they do generate substantial dollar expenditures for local merchants that, in turn, have secondary or multiplier effects as the dollars circulate through the spending stream.

In another sense, however, this study still leaves important questions only partially answered. No consistent time series on the annual number of seasonal migrants to the Phoenix area is available, even though such a series is critical for evaluating the growth of this important social phenomenon. Furthermore, while this investigation provided illustrative information concerning some of the social and economic costs and contributions of the annual influx of winter visitors, no detailed cost-benefit analysis has yet been made that actually weighs the economic contributions provided by seasonal migrants vis-a-vis the costs imposed upon the area's permanent residents. Answers to questions like these would be valuable to planners and decision-makers in both the public and private sectors in Arizona, but complete answers are likely to remain elusive due to the difficulties involved in collecting information about seasonal migration flows.

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[1]Survey teams interviewed 8,432 highway travel parties as they entered the state, 2,221 airline parties as they left the state, and distributed detailed questionnaires to each party to be returned by mail. For more detail, see Hogan and McPheters, *Tourism and Travel in Arizona*, Bureau of Business and Economic Research, College of Business Administration, Arizona State University, 1981.

[2]Robert T. Keim and Susan B. Swirsley, "Phoenix Retired Couple's Budget for 1981," *Arizona Business*, September/October, 1982, pp. 15-17.

[3]Quarterly figures are not available.

[4]*Foresight Eighty* reports the results of a survey conducted by M.R. West, Inc. for Western Savings and Loan Association between November, 1979 and January, 1980. Five thousand one hundred (5,100) permanently fixed housing units, including mobile homes, were selected using a stratified probability sampling design with quotas. Although no distinction is made as to when these part-timers resided in the state, the survey dates lead us to expect that the vast majority are winter visitors, especially since many part-timers come from Canada, Michigan, Minnesota, Washington, and Illinois (p. 228).

[5]A mobile home is at least 8 feet by 40 feet; whereas a travel trailer is or can be collapsed to less than 8 feet wide and 40 feet long. *Foresight Eighty* did not survey travel trailer households.

[6]These results, collected in the April, 1980 census, represent the first effort by the Census Bureau to collect and publish counts of nonpermanent residents. Prior to this time, the Census Bureau was only concerned with "usual place of residence" as defined by the individual. *1980 Census of Population, Supplementary Reports*, PC80-S1-6, April, 1982.

[7]Deborah Sullivan and Sylvia Stevens, "Snowbirds: Seasonal Migrants to the Sunbelt," *Research in Aging*, 4, 1982, pp. 159-177.

We are aware of few other studies devoted specifically to seasonal migrants and their characteristics. D.J. Monahan and V.L. Green ("The Impact of Seasonal Population Fluctuations Upon Service Delivery," *The Gerontologist*, forthcoming), focus on the impact of elderly winter visitors on health and social service access and use in Tucson, but they also present some basic sociodemographic information for their sample of seasonal migrants. John A. Kront ("Seasonal Migration of the Elderly," paper presented at the annual meeting of the Population Association of America, April, 1982) examines data on seasonal migration from a sample of 1,279 over-sixty residents from Chautauqua County, New York. Similar to the results in Table 4, both of these studies find that older seasonal migrants are more likely to be married and report higher levels of education compared to nonmigrants in the same age range.

[8]The income of the national group is not directly comparable, since some of the women included are not living in a retired household and women living alone are excluded.

[9]For women the most popular activities were potluck dinners, swimming, church, tag-a-long tours, crafts, card games, bicycle riding, bingo, golf, and dancing. Activities with smaller followings included silversmithing, billiards, rock hounding, swap meets, adult education courses, shuffleboard, and rodeos. A survey of men in the mobile home park indiates that they participated in the same activities, excluding arts and crafts, and were more likely to play billards.

[10]The Census Bureau found that a sizable number of census tracts in Scottsdale had vacancy rates of 25 percent or more in 1980 (with McCormick Ranch having a rate of 33 percent). The *Arizona Republic* (February 21, 1982) reported that there are some 30,000 winter visitors in travel trailer and mobile home parks in Apache Junction —a town with a permanent population of 10,595 — while local officials estimate that 100,000 to 125,000 people descend on the Mesa/East Mesa/Apache Junction area as a whole.

[11]Maricopa Association of Governments, *Monthly Traffic Count Stations, 1979*, August, 1980.

[12]We thank Dr. Robert Miller of Arizona Emergency Medical Systems, Inc. for this information.

[13]Robert T. Keim and Susan B. Swirsley, "Phoenix Retired Couple's Budget for 1981," *Arizona Business*, September/October, 1982, pp. 15-17.

The Mexican Economic Crisis

PAUL M. DICKIE

The inauguration of Miguel de la Madrid's government on December 1, 1982 signaled a badly needed new beginning for Mexico. Economic management was in shambles. The economy had lurched from one crisis to another throughout 1982. The peso went through two major devaluations, exchange controls were imposed, the private banks were nationalized, the inflation rate tripled and, perhaps most unsettling, confidence had been lost in the ability of Lopez Portillo's government to manage the economy. The mismanagement had severe ramifications internationally as the failure to make payments on Mexico's large external debt threatened the international banking system and the solvency of U.S. banks. In addition U.S. businesses along the Mexican border suffered massive declines in business as dollars became scarce and very expensive in terms of pesos. Uncertainty remains as to when the Mexican economy can be restored to a reasonable degree of stability.

BACKGROUND

In the three decades preceding the 1970s, Mexico was very successful in achieving a rapid rate of real growth, exceeding 6 percent per year, while maintaining relative price stability and equilibrium in the balance of payments. The government's role was to institute major investments in infrastructure and in pivotal industries such as petroleum, electricity generation, and steel while creating a sound institutional and policy framework to encourage the growth and development of the private sector. These decades produced considerable progress in the Mexican living standards.

Yet major problems remained. Little progress was made on reducing income disparity. The incomes of small farmers and the fringe urban dwellers were stagnating. Although land redistribution continued after the major land reforms of the late 1930s, the new lands were generally of poor quality. Moreover, peaking of the population growth rate at 3.5 percent per year in the early 1970s resulted in severe pressures. By 1970, about half of the labor force was either unemployed or unproductive and poorly paid.

The expansionary economic policy adopted to solve these problems in the early 1970s was counterproductive. By the mid 1970s Mexico was experiencing excessive public sector deficits, high inflation, large balance of payments deficits and capital flight. Moreover, in 1976, Mexico's real growth dropped to 2 percent, the lowest rate since the 1930s. Following the September 1, 1976, devaluation of the peso, Mexico entered into a three-year economic adjustment program[1] with the International Monetary Fund (IMF). Mexico exceeded its program targets in 1977. The balance of payments showed improvement while external borrowings were held below agreed levels. At the same time, the fiscal and monetary position improved substantially and savings

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The Mexican economic crisis was the result of several interrelated factors: a historical disparity in income levels, an expanded government spending program, unbalanced trade programs, petroleum-related economic policies, short-term international loans, and Mexico's monetary policy following devaluation.

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generated by the public sector were above expectations. Mexico's exchange system was also restored during 1977 to its previous high standards with the elimination of the remaining nontariff barriers imposed during the foreign exchange shortages of 1976.

Mexico did not utilize loans under the IMF program after 1977 although it remained eligible to do so. There was no need for further loans. Thus Mexico had a very successful experience with the IMF economic adjustment program.

OVEREXPANSION OF THE LATE 1970s

Following the stabilization of the Mexican economy in 1977 and 1978, an expanded spending program was undertaken by the government in 1979. Table 1 summarizes pertinent economic data for 1978 through 1981. Expanded social programs and increased investments in energy and infrastructure projects were the main objectives. The spending programs gained momentum and were accelerated based upon the increased revenues

TABLE 1

MEXICAN STATISTICS

Basic Data				
Area	1,973 million sq. km.			
Population (mid-1981)	69.3 million			
Annual rate of population increase	2.9 percent			
Life expectancy	65 years			
Adult literacy	76 percent			
GDP per capita (1981)	$3,447 (U.S.)			
Production, Prices and Money (percentage change)	*1978*	*1979*	*1980*	*1981*
Gross domestic product (1970 prices)	8.2	9.2	8.3	8.1
Change in consumer price index	17.5	18.2	26.4	27.9
Growth in broad money supply	32.3	36.0	36.7	48.8
Federal Government Finances (billions of pesos)				Est.
Revenues	323	439	675	735
Expenditures	367	505	750	945
Lending minus repayments	18	36	59	90
Overall deficit	63	102	134	300
Public Sector Deficits (percent of GDP)	6.1	6.8	7.0	14.8
Balance of Payments (billions of dollars)				
Exports	6.2	9.3	16.2	19.8
Imports	-8.0	-12.1	-18.6	-23.2
Services and transfers (net)	-1.2	-2.7	-5.1	-9.5
Current account balance	-3.2	-5.5	-7.5	-12.9
Capital account (net)	3.7	5.9	8.6	14.4
Overall balance	0.5	0.4	1.1	1.5
Exchange Rate, Reserves and External Debt (end of period)				
Exchange rate (pesos per U.S. dollar)	22.7	22.8	23.2	26.2
International reserves	2.2	3.0	3.8	4.9
Outstanding public debt	25.6	29.2	33.5	52.0 Est.
International Bank claims on Mexico	23.2	30.7	42.5	56.9

Sources: Mexican National Accounts System, Ministry of Planning and Budgeting, Banco de Mexico, Petroleos Mexicanos (PEMES), International Monetary Fund, World Bank, and Bank for International Settlements.

from petroleum. Petroleum revenues in fact mushroomed as new finds led to increased production, and international prices on exports more than doubled in the 1979-80 period. Nevertheless, federal government expenditures outstripped the growth in revenues and the deficit doubled from 63 billion pesos in 1978 to 134 billion pesos in 1980. While petroleum prices stabilized and declined somewhat in the last half of 1981, the growth in expenditures continued and the deficit more than doubled again to 300 billion pesos in 1981.

The overexpansion of the Mexican economy was led by the federal government but the publicly owned companies such as Petroleus Mexicanos (PEMEX) and the Federal Electricity Commission (CFE) also participated fully. The claims on these public enterprises by banks and financial institutions in Mexico rose from 183 billion pesos at the end of 1977 to 500 billion pesos at the end of 1981. Moreover, all of the growth in the external public debt was utilized by these public enterprises to help finance new projects. During the 1978-81 period, Mexico's external public debt doubled to $52 billion (in U.S. dollars).

The deficit of the entire public sector, that is of the federal government and the public enterprises combined, more than doubled from 6.1 percent of Gross Domestic Product (GDP) in 1978 to 14.8 percent of GDP in 1981. Based on internationally accepted criteria, continued deficits over 3 to 4 percent of GDP are considered very dangerous. Economic instability is the almost inevitable outcome.

The high and rising public sector deficits, when combined with the growth in credit to the private sector, resulted in an excessive creation of liquidity in the economy. The broad money supply which rose by 32 percent in 1978 accelerated to 37 percent in 1980 and 49 percent in 1981.

The pressure on resources became acute. The domestic inflation rate that had been brought down to 17 percent in 1978, rose modestly to 18 percent in 1979. However, as the growth of the money supply continued to accelerate, the CPI rose by 26 percent in 1980 and 28 percent in 1981. It would also appear that these latter rates of CPI increases understated the degree of inflation since enlarged subsidies held down the cost of basic commodities and services.

The balance of payments also reflected the pressures on resources. Mexico's deficit in the current account rose from $1.9 billion in 1977 to $12.9 billion in 1981, a clearly unsustainable level. Coincidental with the emergence of this deficit, petroleum exports rose from $1.0 billion in 1977 to $13.7 in 1981.

While petroleum exports rose rapidly during this period, other exports failed to expand in line with the economy. The agricultural sector stagnated due to price controls and a lack of a coherent agricultural development program. Not only did agricultural exports such as cotton and coffee decline, but major imports of grain were required to satisfy domestic demand. Manufactured exports increasingly became uncompetitive as domestic costs rose in line with the general inflation rate, which far exceeded that found in Mexico's trading partners. As the exchange rate was held below 26 pesos to the dollar, the inflation differential was not offset by a depreciation of the Mexican peso. As a result, manufactured exports became uncompetitive. Overall, the growth of non-petroleum exports stalled and in aggregate only accounted for $6.1 billion, or 31 percent, of total exports in 1981.

The excess domestic demands, in conjunction with the fixed exchange rate, led to a flood of imports. From 1978, imports grew at a compound rate of 43 percent per year to reach $23.2 billion in 1981. Irrespective of petroleum, such a growth rate was unsustainable.

In the late 1970s Mexico was the latest country to succumb to the "Dutch disease." First noted in the Netherlands, this economic malady often appears with the onset of energy wealth. Based on enlarged energy incomes, public expenditure tends to expand and overheat the economy. Inflation rises. To maintain living standards of the low income groups, subsidies grow and public sector enterprises run large deficits. The exchange rate is fixed or appreciated in order to hold down inflation and extend the benefit of cheap imports. The resulting overvalued exchange rate not only induces rapid import growth, but causes the export sectors, other than petroleum, to stagnate and decline. In combination with large amounts of external borrowing, the stage is set for an economic crisis.

THE 1982 CRISIS

Abstracting from the underlying economic trends, the basis of the 1982 financial crisis was laid in 1981. It became clear about mid-1981 that oil prices were softening and international bankers became concerned, not only about the leveling off of oil income, but also about the continued growth of the public sector expenditures. Loans became more difficult to syndicate in the international market, and Mexico did not abrogate the situation when it allowed a substantial increase in the spread above the lending benchmark, LIBOR (London Interbank Offered Rate).

As medium term loans became increasingly difficult to arrange, Mexico drew on its existing short-term credit

lines to bridge the financing gap. Of the overall net increase in obligations to international banks of $14.4 billion during 1981, $8.9 billion was contracted on maturities of less than one year. Thus, at the end of 1981, fully 48.6 percent of the outstanding debts of $56.9 billion to international banks were due in less than one year.[2] Given the short-term build-up in 1981 and the increasing reluctance of international bankers to lend to Mexico, the repayment burdens in 1982 became unmanageable.

The liquidity problems, when considered against the background of a very large and growing disequilibrium in the current account of the balance of payments, led to the decision to let the peso float on February 17. The intent of the devaluation was to make imports more expensive and to raise the profitability of the export sector. The resulting reduction in import payments when combined with increased foreign exchange earnings from exports turns the balance of payments around. From the end of January rate of 26.6 pesos per U.S. dollar, the peso fell to 44.6 pesos to the dollar at the end of February, a drop of 68 percent.

That devaluation appeared to be the right magnitude. On the basis of purchasing power parity, the equilibrium exchange rate in early 1982 should have been approximately 40 pesos per U.S. dollar.[3] Such a rate would presumably allow the Mexican manufacturing sector to compete effectively with imports at home as well as to expand shipments to the international market.

Following the devaluation, the Mexican authorities reiterated their intention to let the peso float freely. The gradual depreciation of the peso by about 1 peso per month gave credence to the stated objective. While there was some uncertainty, events seemed under control. As late as July, the general level of confidence was reflected by the international banks who, with some reluctance, provided Mexico with a jumbo loan of $2.5 billion.

However, the underlying economic trends were not developing in a positive direction. In order to be successful, a devaluation must be accompanied by stringent fiscal and monetary policies. Without such policies, wages and incomes will tend to rise to offset the increased cost of imports. In turn that will mean that the demand for imports will not be reduced and the profitability of exporters will not improve due to the higher wage costs. Unfortunately neither a restrictive fiscal nor a tight monetary policy was instituted by Mexico following the February devaluation. Price concessions were made to most sectors of the economy, and wages were increased across the board by 30 percent in March. No major effort was made to reduce the subsidies, many of which had risen by the extent of the devaluation. In the face of political pressures surrounding the campaign leading to the Presidential election in July, incomes appear to have risen in line with the devaluation. As a result, the devaluation did nothing to restore the competitiveness of the Mexican economy. Not only did the devaluation fail completely, but its byproduct was to raise the inflation rate from an annual rate of about 30 percent to over 70 percent.

The stage was then set for the August crisis. On August 2, 1982, the government made a belated effort to cut the subsidies in electricity, petroleum, bread, and tortillas. Speculation intensified, and on August 5, the government allowed the peso to depreciate sharply, acknowledging that the Banco de Mexico had run out of reserves. A dual exchange system was imposed: a rate of 49.5 pesos for essential imports and a more depreciated rate for all other transactions, that later was fixed at 70 pesos. The holders of U.S. dollar accounts totaling some $12 billion were informed on August 12, 1982, that they could only make withdrawals from their accounts in pesos at the 70 peso rate. Over the latter part of August and September, a full set of exchange controls was imposed to limit the amount of foreign exchange and other valuables that could be taken out of the country.

This was the first time in Mexico's history that exchange controls had been imposed. In fact, under the Articles of Agreement with the International Monetary Fund, Mexico had accepted the obligations of Article VIII which precluded the use of exchange controls and multiple exchange rates.

Following the immediate crisis in August, the U.S. administration put together a rescue package for Mexico. There was a $1.0 billion advance payment for oil imports, a further $1.0 billion in agricultural export credits, and a $1.85 billion facility arranged through the Bank for International Settlements.[4] In addition, the international banks agreed to a postponement of the principal repayments for 90 days. This package of support was intended to prevent a total cutoff of foreign exchange to the economy while negotiations were underway with the International Monetary Fund to restructure the economy and provide a further infusion of financing.[5] The fund program was also a necessary pre-condition for a full rescheduling of external debt.

The government has balked at the conditions of the fund for structuring the economy and, blaming the crisis on capital flight by rich individuals and bankers, nationalized the private Mexican banks on September 1. All progress halted.

OUTLOOK

In the final days of the Lopez Portillo government an agreement was reached with the fund for an economic adjustment program. Miguel de la Madrid's incoming government participated in the discussions and concurred with the program. The program is similar in outline to that of 1977-79 but the degree of required adjustment is much larger.

The key problem in the Mexican economy was seen to be the fiscal imbalance. The public sector deficit was estimated to have risen to 16.5 percent of GDP in 1982. Under the program, that deficit is to be reduced to 8.5 percent in 1983, 5.5 percent in 1984, and 3.5 percent in 1985. In line with this scheduled reduction, it will not be until 1985 that some degree of fiscal, monetary and price stability can be expected to return to Mexico.

The new government is also committed to rationalizing the exchange system. Following a further devaluation in December, 1982, the exchange regime still consisted of three rates: a free market rate applicable to most transactions, a controlled rate kept under the free market rate and designated for raw material imports, and a special rate which was still lower and was designated to be used for repayment of dollar loans. Over and above these multiple exchange rates, an extensive exchange control system remained in place. The continuous low level of foreign exchange reserves did not permit any rapid elimination of these controls.

The Mexican peso at the free market rate has recently depreciated to 148 pesos to the U.S. dollar. On the basis of purchasing power parity, the peso would not be expected to exceed 100 pesos to the U.S. dollar, given the approximate doubling of domestic prices in Mexico during 1982. The peso's current free market rate reflects adverse speculation and expectation of continued high inflation during 1983. Given the current undervalued status of the peso on the free market, Arizona business people can best make use of the situation by increasing the imports of salable goods and services, including tourism, from Mexico. In addition, the undervalued exchange rate makes in-bond assembly operations in Mexico very attractive. As the Mexican government supports an undervalued exchange rate to promote the recovery of its economy, this situation can be expected to continue in some degree for the next two to three years.

The international community's support for Mexico has remained strong. The commercial banks have agreed to reschedule public sector debts and have cooperated with the fund to insure adequate financing for Mexico's balance of payments in 1983. The forecasted foreign exchange requirements of $8.3 billion in 1983 that will be provided by the fund and the commercial banks is predicated on unchanged oil prices.

A full recovery of the Mexican economy is going to take several years. During this recovery, the social strains due to the austerity measures the government must impose will be severe. The potential exists for a breakdown in the program because of political difficulties. Without such problems it is nevertheless unlikely that the economic conditions of the late 1970's can be restored before 1985. It may take longer if petroleum prices decrease appreciably.

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[1]The program was under the Extended Fund Facility under which Mexico was permitted to draw up to SDR 518 million or 140 percent of its 1976 quota.

[2]Data are from the Bank of International Settlements Press Release, "The Maturity Distribution of International Bank Lending — Second Half of 1981 Developments," July, 1982.

[3]The Mexico City Wholesale Price Index had increased by 173 percent from the end of 1977 (when equilibrium is presumed to have existed) to February, 1982 relative to a 54 percent increase in the U.S. during the same period. Utilizing the changes in the form of ratios and taking into account the end of the 1977 exchange rate of 22.7 pesos to the U.S. dollar, the equilibrium rate in early 1982, to offset the higher inflation rate in Mexico, would be in the region of 40 pesos per U.S. dollar.

[4]The BIS facility was conditional on progress in coming to an agreement with the International Monetary Fund on a corrective program. As of the end of September, Mexico had only been permitted to draw one-third of the available amount.

[5]The Fund program most appropriate for the Mexican restructuring would be a three year program under the Extended Fund Facility, similar to that successfully completed following the 1976 devaluation. Given Mexico's current quota and past use of Fund resources, financing of up to SDR 3.5 billion over the program period would be possible from the EFF and related facilities.

Second Hand Stores: The Resurgence of an Old Form of Retailing

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ELLEN G. RONGA

Consumers today are faced with increasing unemployment, inflation and shortages. Because of these economic problems, many consumers can no longer afford conventional retail stores and are turning toward alternative sources for goods and services.[1] These alternatives include auctions, swap meets, barter clubs, flea markets, garage sales, consumer cooperatives and second hand stores.

Several commentaries on this phenomenon have appeared in newspapers and trade publications, but very few data based research studies have dealt with the topic of nonconventional retailing. Studies in this area have addressed the nature of swap meets as a developing form of retailing in the United States;[2] the characteristics and preferences of swap meet shoppers;[3] shopper and operator attitudes, participation levels, and marketing strategies concerning garage sales;[4] aspects of pre-owned merchandise buying;[5] shopping behavior patterns and the patronage motives of customers of Goodwill stores.[6] The perceived risk in the retailing of new versus used goods and the applicability of the traditional risk reduction strategies to "previously owned merchandise" retail markets has also been studied.[7]

Although these studies have touched upon the topic of nonconventional retailing, they have dealt almost exclusively with the customers of these emerging or re-emerging forms of retailing. Most researchers have attempted to explain consumer behavior as it relates to one or more of these forms of retailing. No data-based articles focused on these outlets themselves and their owners and/or methods of operations. This dearth of information indicated a need to explore this aspect of retailing.

This article presents an in-depth exploration of the second hand stores as an important segment of nonconventional retailing. The purpose of the study was to provide business people and the general public with much needed information concerning the ownership, type of organization, merchandise carried, store operations, acquisition of goods, pricing and price policies, advertising practices and demographics relating to these outlets.

Second hand stores can generally be divided into two categories: thrift stores and resale stores.[8] A thrift store is one in which "net proceeds" go to charitable and social services and the goods are donated. A resale store is a profit-making enterprise, often handling merchandise on consignment.

In this article, the terms distinguish between the two. When reference is made to the whole category, the term second hand stores is used. Excluded are such

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Second hand stores are a thriving form of retailing, and in the current economic climate, are likely to continue to do well. This article presents a profile of these stores in the Phoenix area and includes both resale stores and thrift stores.

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specialty retailers as antique shops, used bookstores, used car dealers, and similar outlets.

A STUDY OF PHOENIX AREA SECOND HAND STORES

The population under study was defined as second hand stores located in the greater metropolitan Phoenix area. The "Second Hand Stores" category of the *1982 Yellow Pages* was used to identify the survey's potential participants. The necessary data were collected by personal interviews and the research design was characterized as being both exploratory and descriptive. Since there were only 105 second hand stores who advertised in the *Yellow Pages*, the researchers attempted a census. Of the 105 stores, 85 participated in the study. Eight stores were found to be out of business and twelve stores refused to participate in the study. The researchers used a structured questionnaire and attempted in all cases to interview the owner or manager of the operations in order to reduce the response bias due to unfamiliarity with the store operations.

Findings and Analysis

Of the eighty-five outlets that responded, forty-five were resale stores, while the remaining forty were thrift stores affiliated with Goodwill, Salvation Army, St. Vincent de Paul, veterans groups or others. For a breakdown of number of outlets operated by these various nonprofit organizations, see Table 1.

TABLE 1

CATEGORIES OF THRIFT STORES SURVEYED

Goodwill	14
Salvation Army	7
St. Vincent de Paul	3
Veterans organizations	2
Retarded citizens groups	2
Other church/religious groups	8
Other nonprofit organizations	4
	40

Source: Survey conducted by the authors.

Length of Operation

Among the eighty-five individuals interviewed at the stores by the researchers, forty were owners, thirty-five were managers and ten were either employees or volunteers of the establishments contacted. Nineteen percent of the responding individuals have been in the second hand store business less than one year, 59 percent have been in the business one to nine years, and the remaining 22 percent have been in the business for ten years or more.

Almost one-half (47 percent) of the stores have been in business at the same location for three years or less. An additional 41 percent of all the businesses have been operating at the same location for four to twenty years, while the remaining 12 percent have been operating at the same location for more than twenty years. Thirteen resale stores have been in operation for less than one year, and an additional three thrift stores have been in business the same length of time. This seems to indicate two things: first, that many second hand stores in the Phoenix area are just beginning operations and are not well established; and second, that there is a significant growth in total number of second hand stores with sixteen new outlets operating and only four closing operation in the last year.

Type of Merchandise and Sources

Many of the second hand stores carried a wide variety of merchandise. However, as one would expect, the majority of items fell into one of the following categories: clothing, toys, appliances, kitchen items, bedding and furniture (see Table 2).

As can be seen from Table 2 (in all but one case) more thrift stores carried each of the product categories. This is due generally to their inability to be selective in

TABLE 2

COMPARISON OF MERCHANDISE CARRIED BY THRIFT AND RESALE STORES

	Thrift Stores (percentage) n = 40	*Resale Stores (percentage) n = 45*
Clothing	100.0	66.6
Toys	87.5	49.0
Appliances	100.0	64.0
Kitchen items (glassware, dishes, utensils)	52.5	22.0
Bedding	95.0	47.0
Shoes-purses	32.5	16.0
Furniture	67.5	73.3
Other*	100.0	64.4

*Among the other types of merchandise mentioned two or more times were: jewelry, books, collectables, antiques, and luggage.

Source: Survey conducted by the authors.

the goods they receive. A possible explanation for the furniture pieces being found in slightly more resale stores is that they tend to be big ticket items that are sold rather than given away by their original owner.

As expected, the forty thrift organizations received all of their goods from donations, while the privately owned resale stores received their merchandise from a variety of sources. Table 3 presents a breakdown of the major sources of merchandise available for sale at the various resale stores.

TABLE 3

MAJOR SOURCES OF MERCHANDISE AT RESALE STORES

	Percentage
Buy from individuals	64
Consignment	16
Auction-swap meets	14
Other (yard/garage sales, liquidations, bankruptcy sales, etc.)	6

Source: Survey conducted by the authors.

Because of the nature of the merchandise carried, approximately two-thirds of all the stores did some type of refurbishing or renovation. One might expect that all of them would do some type of refurbishing but some of the smaller resale stores did not have the money, personnel, or time to renovate/refurbish the used merchandise. Additionally, some of the resale stores operated almost exclusively on consignment and expected the merchandise to be brought in ready to sell. Only 47 percent of the resale stores did some type of renovation while 85 percent of the thrift stores surveyed did some renovation or refurbishing (see Table 4).

TABLE 4

COMPARISON OF THRIFT AND RESALE STORES ON RENOVATION WORK DONE

	Thrift Stores (percentage) n = 40	*Resale Stores (percentage) n = 45*
Cleaning	70.0	37.8
Painting	65.0	11.1
Repair	82.5	20.0
Sewing	47.5	22.2
Sterilizing	62.5	6.7
Reupholstering	42.5	6.7
Restoration	25.0	6.7
Other	27.5	4.4

Source: Survey conducted by the authors.

Of the forty-five resale stores, 51 percent accepted goods on consignment in which individuals or groups bring in goods that the stores would agree to sell (see Table 5). Most of the goods are preowned merchandise but some of the stores accepted homemade new goods as well, such as knit goods and clothing. In all instances, a contractual arrangement is made between the store and the owner of the goods. The normal procedure is for the two parties to agree upon a price and at most of the stores (83.3 percent) the split would be 50/50.[9] Other splits on the proceeds would be 75/25, 70/30, and 66.7/33.3, with the greater share going to the owner of the goods.

TABLE 5

PROPORTION OF MERCHANDISE CARRIED ON CONSIGNMENT BY VARIOUS SECOND HAND STORES*

Percentage	*Percentage n = 23*
Less than 10	22.5
10 - 19	4.5
20 - 29	9.0
30 - 39	9.0
40 - 49	9.0
50 - 59	4.5
60 - 69	0.0
70 or more	40.5
Total	99.0[a]

*This includes only second hand stores that did some business on consignment.

[a]Total does not equal 100 due to rounding.

Source: Survey conducted by the authors.

Although 80 percent of the respondents said they do sell new merchandise, a very small percentage of new merchandise was actually carried by most second hand stores (see Table 6). Of the thrift stores that carried new goods, most of them carried less than 10 percent in new merchandise. Four of the most common sources of new merchandise are production overruns, sales samples, store sell outs, and department stores' excess inventory.[10] Additionally, thrift stores sometimes get brand new items donated by retail stores as well as never used items from individuals. For a breakdown of percentage of goods represented by new merchandise carried by the second hand stores, see Table 6.

TABLE 6

PERCENTAGE OF GOODS REPRESENTED BY NEW MERCHANDISE

Percentage	*Percentage* $n = 68$
Less than 10	62.5
10 - 19	14.0
20 - 29	7.8
30 - 39	6.2
40 - 49	0.0
50 - 59	4.6
60 or more	4.6
Total	99.7[a]

[a]Total does not equal 100 due to rounding.

Source: Survey conducted by the authors.

Return Policy

Regarding return policies for new and used goods, almost half the stores responding (48 percent) had a return policy on the new goods which they sold. The most popular policy (42 percent of those who permitted returns) allowed the customer to exchange for other merchandise and 26 percent said the customer could return for cash in twenty-four to forty-eight hours.[11] There was no significant difference between the return policies for new goods between thrift and resale stores.

More significantly, 43 percent of the respondents also said they had a return policy on the used goods which they sold. Again, the two most frequent policies were exchanges for other goods (38 percent) and return for cash twenty-four to forty-eight hours (27 percent). Again, for both return policies there was no significant percentage difference between the proportion of thrift and resale stores which offered their customers this convenience.

Pricing and Price Policies

The pricing aspect of second hand outlets showed some interesting findings. Nearly all the outlets (95 percent) marked the prices of the goods on the items for sale in some manner; yet, a little more than half (52 percent) of all the stores said their prices were negotiable. However, when the breakdown between resale stores and thrift stores in this regard is observed, a significant difference exists regarding price negotiation. Sixty-nine percent of the resale stores allow price negotiation while only 30 percent of the thrift stores allow prices to be negotiated.[12]

Pricing policies were varied. The thrift stores typically responded that their pricing policy depended upon the quality of the merchandise or a manager's intuition, and that there was no mark-up per se because they did not purchase goods to start with. In resale stores, the most frequent mark-ups were 33 1/3 percent, 50 percent, and 100 percent of the cost. However, 42 percent of these respondents said that their mark-up varied.[13] Furthermore, 32 percent of the respondents allowed merchandise bartering, and all were resale stores as opposed to thrift shops.

Competition

The respondents were also asked, "Who do you perceive to be your major competitor?" The respondents were allowed to give more than one response to this question, thus the percentages in Table 7 add to more than 100 percent.

TABLE 7

MAJOR TYPES OF COMPETITION AS PERCEIVED BY SECOND HAND STORES

	Percentage $n = 85$
Other second hand stores	47.1
Garage sales	42.4
Regular retail stores	18.1
Swap meets	14.1
Other	4.7
Total	126.4[a]

[a]Percentages total more than 100 percent because of multiple responses.

Source: Survey conducted by the authors.

There was no significant difference between the proportion of thrift and resale stores in terms of their perception of competition for customers of their goods.

Advertising

One aspect of marketing by second hand stores that seems to be neglected is that of advertising. The researchers had located the 85 second hand outlets through the use of the *Yellow Pages*, but none of the outlets had any display ads in the directory. In order to determine if the stores did any other advertising, they were asked to list the forms of advertising they actually did in addition to the *Yellow Pages*. Thirty percent of the stores did no additional advertising, with about the same

percentage of thrift and resale stores using other forms of advertising (see Table 8.) For those who did advertise elsewhere, print media was the most common. It is also the most economical.

TABLE 8

PROPORTION OF OUTLETS USING VARIOUS FORMS OF ADVERTISING MEDIA

	Percentage $n = 43$
Newspapers	61.7
"Pennysaver"	36.7
Flyers	31.7
Radio	16.7
Television	13.3
Bulletin boards	13.3
Other	
"Bargain Shopper" and "Customer Shopper"	50.0

Source: Survey conducted by the authors.

The only significant differences in use of forms of advertising media between the two types of second hand/thrift stores were that more thrift stores used television and bulletin boards while more resale stores used the "Pennysaver".

Almost all the thrift stores that did advertising were either unable or unwilling to give the amount of money spent on advertising. However, of the resale stores that did advertising, 45 percent spent $500 or less per year, and 30 percent spent between $501 and $1,000; the remainder of the stores spent over $1,000 per year.

Number of Customers and Amount of Purchases

On weekdays, 39 percent of all the second hand stores had between 1 and 50 shoppers a day, 34 percent had between 51 and 100 shoppers, 10 percent had over 200 shoppers, and the remainder had somewhere between 101 and 200 shoppers a day. On weekends, 30 percent of the stores interviewed had between 1 and 50 shoppers a day, 23 percent had between 51 and 100 shoppers a day, 21 percent had over 200 a day and the remainder between 101 and 200. It should be noted, however, that there was significant difference in the average number of shoppers between the thrift and resale stores with the thrift stores having substantially more shoppers per store.

In regard to the amount of the average purchase made, 42 percent of the respondents said it was in the $1 to $5 range. Another 34 percent said the average purchase was $6 to $10. The researchers found a significant difference between thrift and second hand stores. All of the thrift stores that answered this question said either $1 to $5 or $6 to $10; however, of the resale stores, 8 percent said $11 to $15, 5 percent said $16 to $20, 8 percent said $21 to $25, and 18 percent said over $30.

Sales

All of the respondents were asked to describe their sales in the last year (1981) as compared to the previous year (1980). Three did not know and sixteen could not respond because they had not been in business long enough. The responses of the other sixty-six are shown in Table 9. There were no significant differences in the responses of the thrift versus second hand stores.

TABLE 9

PERCEPTION OF LAST YEAR'S SALES RELATIVE TO THE PREVIOUS YEAR'S SALES

	Percentage $n = 66$
Increased a lot	23.7
Increased a little	39.5
Neither increased or decreased	19.7
Decreased a little	13.2
Decreased a lot	3.9
Total	100.0

Source: Survey conducted by the authors.

The researchers also asked each respondent to estimate their average monthly sales. Forty-nine percent refused to answer the question or said they did not know what it was. Fifty-one percent of the thrift stores and resale stores answered the question, as shown in Table 10. There was no significant difference between the thrift stores and resale stores; however, in the over-$20,000 sales category, five of the respondents were thrift stores.

Some demographics of interest concerning the second hand outlets in general were that 29 percent had no full-time employees and 40 percent had no part-time employees. Thirty-four percent had one to two full-time employees and 38 percent had one to two part-time employees; 79 percent of the respondents said that they had volunteers assisting in the operations.

Regarding the physical size of the stores, 19 percent were 1,000 square feet or less, 32 percent were between 1,000-2,500 square feet, 21 percent were between 2,500-

5,000 square feet, 13 percent were between 5,000-7,500 square feet, and the remaining 14 percent were over 7,500 square feet, including two thrift stores in excess of 20,000 square feet.

Table 11 shows the distribution of location by city. Two resale stores each in Phoenix, Chandler, and Scottsdale and one in Tempe refused to provide any answers to the survey and are not included in Table 11.

TABLE 10

ESTIMATES OF AVERAGE MONTHLY SALES OF SECOND HAND STORES

	Percentage $n = 43$
Less than $500	2.3
$500 to $1000	9.3
$1001 to $3000	18.6
$3001 to $5000	9.3
$5001 to $7500	14.0
$7501 to $10,000	9.3
$10,001 to $15,000	18.6
$15,001 to $20,000	4.7
Over $20,000	14.0
Total	100.1[a]

[a]Total equals more than 100 due to rounding.

Source: Survey conducted by the authors.

TABLE 11

LOCATION OF STORES

City	*1980 Population*	*Percentage of Urban Population*	*Thrift (percentage)*	*Resale (percentage)*
Phoenix	789,704	59.7	62.5	60.0
Mesa	152,453	11.5	15.0	6.7
Tempe	106,743	8.1	5.0	13.9
Glendale	97,172	7.3	7.5	4.4
Avondale	8,168	0.6	5.0	4.4
Chandler	29,673	2.2	2.5	0.0
Scottsdale	88,412	6.7	0.0	2.2
Other Cities[a]	51,589	3.9	2.5	8.9
Total			100.0	100.5[b]

[a]Other cities include Apache Junction, Gilbert, Paradise Valley, Peoria, and Tolleson.

[b]Percentages total more than 100.0 due to rounding.

Source: Survey conducted by the authors. Population figures from *1980 Census of Population.*

SUMMARY AND CONCLUSION

This article has explored the nature of second hand stores as a growing and dynamic form of retailing as evidenced by the fact that 47 percent of the outlets have been in business three years or less, and the total number of outlets has grown by 18 percent over the past two years as well.[14] In the greater Phoenix area, it was found that the majority of these outlets were private for-profit resale stores with sole proprietorships making up 73 percent of this category. Goodwill, Salvation Army and St. Vincent de Paul constituted 60 percent of the thrift outlets. This is not a surprising finding since they are well established organizations nationwide. Rarely was more than one outlet owned or managed by the same individual. However, even in the case of the three large nonprofit organizations, only in two instances did a manager have responsibility for more than one outlet. From the standpoint of the resale stores this seems to indicate that, as yet, investors have not felt that economies of scale can be realized or perhaps that these outlets are not significant enough to pursue.

All of the thrift stores depended solely on donations as their source of merchandise, while the resale stores obtained their goods from a variety of sources. Due to the difference in the nature of the sources of merchandise between these two major categories, it is likely that shoppers would find the prices at thrift stores for comparable merchandise will be lower than the prices at resale stores.[15]

Although consignment was a major source for only 16 percent of the resale stores, this would seem to offer an alternative to individuals selling goods at garage sales/swap meets. The new type of store that operates on consignment offers a viable alternative to individuals that are too busy to sell goods at swap meets/garage sales. With consignment operations, the owner of the goods is involved in setting the price and therefore stands to make more money.

Individuals who have used merchandise may find advantages in donating the used merchandise to a thrift shop instead of selling to a resale store. First, most thrift shops provide pickup service and therefore the party with the second hand items is not inconvenienced; second, the donor gets a tax deduction of the item's value at the time of the donation; and third, the individual does not have to worry about the condition of the goods since almost all the thrift stores do some renovation and refurbishing. On the other hand, individuals interested in selling their used goods would have to go through some search process as only one-third of the resale stores do any renovation and refurbishing.

Second hand stores emulate regular "retailers" in that they mark their prices on their goods. Price-conscious shoppers likely will have to wait a shorter period of time to get a real bargain, since almost two-thirds of the outlets mark their goods down within a month.

The fact that a large number of respondents felt their sales had increased might suggest the impact the depressed economy has had on consumers' buying habits. People apparently have found that second hand stores are a form of retailing institution that allows them to get more for their money. This, coupled with the fact that almost 50 percent of the outlets are doing an average monthly sales volume of $5,000 or more, suggests that second hand stores are a thriving category of retailing.

Given the current economic conditions, this form of retailing is likely to continue to grow in importance. Second hand stores possess advantages not found in the other forms, including fixed location, regular hours of operation, no membership fee and in many cases, an opportunity to return the goods for an exchange or cash refund. Whether these pluses are sufficient to attract a sizable following will, to some extent, depend upon these retailers' willingness to promote their distinctiveness.

Additional empirical research is needed to identify and categorize shoppers of second hand stores and the reasons for shopping these outlets. Such research would not only help the owners and managers of these stores but would also help marketers to understand better this form of retailing institution and their customer following.

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[1]Ugur Yavas, Maurice G. Clabaugh, Jr. and W. Glen Riecken, "A Preliminary Investigation of Perceived Risk Differences in the First Order and Second Order Retail Markets," in *Developments in Marketing Science*, Vol. 4, eds. Venkatokrishna V. Bellur, et al., Academy of Marketing Sciences, 1981, p. 64.

[2]Nabil Razzouk and David R. Gourley, "Swap Meets for Fun and Profit: The Retailing Institution of the 1980's," in *Developments in Marketing Science*, Vol. 4, eds. Venkatokrishna V. Bellur, et al., (Muncie, Indiana: Academy of Marketing Science, 1981) pp. 9-13.

[3]Nabil Razzouk and David R. Gourley, "Swap Meets: A Profile of Shoppers," *Arizona Business*, Vol. 29, No. 2 (February/March, 1982) pp. 8-12.

[4]Thomas D. Dovel and Davis F. Healy, "The Garage Sale — A New Retailing Phenomenon?" in *Proceedings: Southern Marketing Association*, eds. Henry W. Nash and Donald P. Robin (Mississippi State University, 1977) pp. 164-7.

[5]Ugur Yavas and W. Glen Riecken, "Heavy, Medium, Light Shoppers and Nonshoppers of a Used Merchandise Outlet," *Journal of Business Research*, Vol. 9 (1981) pp. 243-252.

[6]W. Glen Riecken, Ugur Yavas and Charles Battle, "Pre-owned Merchandise Buying: A Neglected Retailing Phenomenon," in *Developments in Marketing Science*, Vol. II, eds. H.S. Gitlow and E.W. Wheatley, Academy of Marketing Science, 1978, pp. 58-61.

[7]Ugur Yavas, "A Preliminary Investigation," pp. 64-67.

[8]Terminology for types of second hand stores seem to be in flux but the terms used in the paper seem to adequately describe the types of outlet. See Patricia A. Dreyfus, "First-Class Secondhand Clothes," *Money*, (December, 1980) pp. 63-66 and Patricia A. Dreyfus, "Chic Comes to Secondhand Clothes," *Changing Times*, (February, 1981) pp. 79-80.

[9]This finding parallels the findings in the *Changing Times* article.

[10]*Money*, op.cit. p. 64

[11]This finding is in direct contrast to that in the *Money* article.

[12]This finding is also in direct contrast to that in the *Money* article.

[13]Both the *Money* and *Changing Times* articles support this finding.

[14]The listing of second hand stores in the Phoenix *Yellow Pages* was static at 89 from 1978 to 1980, then increased to 100 in 1981, and 105 in 1982.

[15]This conclusion is supported by the *Money* article.

Arizona Construction Activity: The Upward Trend in 1982

JAY Q. BUTLER

Each of the last two years has begun with the expectation of real estate recovery, only to have the expectations fail to materialize due to the continuing recession, as exacerbated by high and volatile interest rates. While the early part of 1982 saw the continuation of adverse market conditions, construction activities and anticipations began to improve in the latter half of the year in response to declining interest rates, reduced inflation, and general indicators of economic recovery.

The single-family housing sector is important because of its volume of activity and its role as a bellwether of construction activity and the economy. Figure I shows the impact that the level of conventional mortgage interest rates has on housing activity. The peak mortgage rate was 18.11 percent in the fourth quarter of 1981, resulting in only 1,873 single-family permits. With interest rates declining throughout 1982, single-family permit activity began to increase (Table 3). Although construction activity was down from the level achieved a year ago, the basic trend was upward, especially in the latter half of 1982. (See the 1982 year-end report on pages 30-31.)

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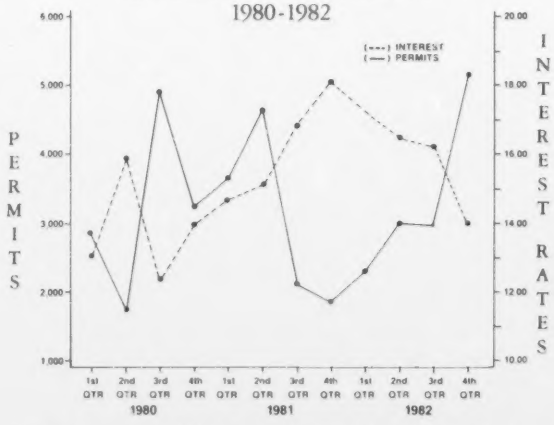
FIGURE I

SINGLE FAMILY PERMITS ISSUED AND INTEREST RATE ACTIVITY
1980-1982



Source: News. Federal Home Loan Bank Board and *Arizona Business*, Bureau of Business and Economic Research, College of Business Administration, Arizona State University

SECTORAL CHANGES

Total construction activity in Arizona was 77,389 permits, valued at $2.36 billion, a 6 percent decline from the 82,608 permits of 1981 but only a 2 percent decrease in dollar value from the $2.43 billion of one year ago. In

Maricopa County, total reported permits declined 5 percent (from 45,681 to 43,149 permits) with a 1 percent increase in dollar value (from $1.51 billion to $1.53 billion). Given the very poor economic environment, the relative stability of construction activity demonstrates the underlying promise of the Arizona economy and provides a positive outlook for the future of the state.

The metropolitan counties of Maricopa and Pima continued to represent the largest geographical areas of construction activity. Maricopa County represented 56 percent of the total recorded permits and 65 percent of the total dollar value, while Pima County reported 17 percent of the total permit activity and 18 percent of the total dollar value. Table 1 provides a review of county-by-county construction activity for 1981 and 1982.

Residential

Single-family permit activity in Arizona increased 1 percent over the 1981 level, from 19,512 to 19,763 permits. While this is a slight increase, the overall

TABLE 1

ARIZONA BUILDING PERMIT ACTIVITY: 1981 and 1982

	RESIDENTIAL[1]		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
APACHE COUNTY: 1982	212	5,976,634	26	999,700	—	—	52	3,636,030	290	8,612,364
1981	166	5,285,448	24	445,500	3	693,000	18	383,712	211	4,805,660
Percent Change	+28	+21	+8	+125	—	—	+188	+847	+37	+79
COCHISE COUNTY: 1982	1,145	21,259,266	75	10,833,796	5	92,800	1,128	7,827,031	2,351	40,012,893
1981	1,137	17,857,972	70	10,882,204	7	179,504	1,146	4,819,686	2,360	33,719,366
Percent Change	+1	+19	+7	—	-57	-48	-2	+62	—	+18
COCONINO COUNTY: 1982	1,538	32,371,007	99	18,175,929	9	6,875,572	606	18,230,986	2,252	75,653,494
1981	1,841	40,106,403	166	25,407,987	8	393,866	463	6,172,711	2,478	72,080,967
Percent Change	-16	-19	-68	-28	+13	+1,646	+31	+195	-9	+5
GILA COUNTY: 1982	767	9,394,304	15	812,846	11	534,498	191	1,210,941	984	11,752,589
1981	954	13,022,080	51	2,223,792	5	68,688	396	1,240,652	1,406	16,555,212
Percent Change	-20	-28	-71	-63	+120	+387	-52	-2	-30	-29
GRAHAM COUNTY: 1982	385	5,760,885	23	1,312,288	2	1,820,000	60	2,514,723	470	9,407,896
1981	460	5,510,346	28	480,050	1	15,000	48	864,180	537	6,869,576
Percent Change	-16	+32	-18	+173	+100	+1,200	+25	+191	-12	+37
GREENLEE COUNTY: 1982	21	333,400	2	1,041,000	1	151,000	2	1,400	26	1,526,800
1981	20	320,655	1	1,000	—	—	3	15,800	24	337,455
Percent Change	+5	+4	+100	+1,040	—	—	-33	-91	+8	+352
MARICOPA COUNTY: 1982	22,641	594,299,935	2,133	571,050,849	401	109,797,829	17,974	253,064,870	43,149	1,528,213,483
1981	23,609	616,842,830	2,205	552,951,275	533	140,876,225	19,334	221,645,940	45,681	1,512,296,270
Percent Change	-4	-3	-3	+7	-24	-22	-7	+14	-5	+1
MOHAVE COUNTY: 1982	2,618	31,760,089	206	19,217,691	—	—	2,474	7,656,615	5,298	58,634,395
1981	2,949	40,909,453	221	17,950,941	2	1,667,640	2,740	8,908,471	5,912	69,436,505
Percent Change	-11	-22	-7	+6	—	—	-10	-14	-10	-15
NAVAJO COUNTY: 1982	1,128	20,467,370	34	2,800,396	12	288,698	264	1,719,019	1,438	25,275,483
1981	1,181	21,801,888	44	4,945,158	23	206,680	189	1,002,910	1,437	27,956,636
Percent Change	-4	-6	-23	-43	-48	+40	+40	+71	—	-11
PIMA COUNTY: 1982	7,489	157,257,717	292	143,337,599	15	10,205,055	5,325	114,890,173	13,121	425,690,544
1981	7,266	159,741,677	516	278,564,628	16	4,432,625	5,636	48,436,804	13,434	490,975,734
Percent Change	3	-2	-43	-49	+1	+130	-6	+140	-2	-13
PINAL COUNTY: 1982	1,628	27,426,908	111	16,586,795	7	13,095,656	759	6,634,674	2,505	63,544,031
1981	2,059	27,110,535	94	8,171,752	10	654,188	832	7,277,567	2,995	43,213,842
Percent Change	-21	+1	+18	+100	-30	+1,902	-9	-9	-16	+47
SANTA CRUZ COUNTY: 1982	99	3,365,869	11	471,500	2	117,200	45	693,578	157	4,648,147
1981	191	6,129,570	8	326,600	4	320,000	71	1,434,524	274	8,210,694
Percent Change	-48	-45	+37	+44	-50	-63	-37	-52	-43	-43
YAVAPI COUNTY: 1982	2,248	51,160,759	142	13,972,023	13	1,215,550	1,024	5,801,063	3,427	72,149,395
1981	2,708	69,018,883	178	21,151,542	18	908,443	1,006	7,725,883	3,910	98,804,751
Percent Change	-17	-12	-20	-34	-28	+34	+2	-25	-12	-27
YUMA COUNTY: 1982	1,372	24,872,313	52	10,202,512	16	1,272,999	481	7,017,527	1,921	43,365,351
1981	1,475	26,459,561	100	10,122,728	11	1,067,002	363	4,045,512	1,949	41,694,803
Percent Change	-7	+4	-48	+1	+45	+19	+32	+75	-1	+4

[1]Includes mobile homes.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

trend—contrary to 1981—was upward, with 4,567 permits recorded in the first quarter and increasing to 6,839 permits in the fourth quarter of 1982. This upward trend, stimulated by lower interest rates and improving economic conditions, is providing the foundation for the long-expected homebuilding recovery.

Maricopa County. The single-family sector posted its first annual increase since 1978, with an 8 percent increase (from 12,276 to 13,380 permits). Table 3 shows that most of the improved activity occurred in the last two quarters of 1982. (See also Figure I.) The movement of single-family construction activity over the last several years dramatically demonstrates the sensitivity of the housing sector to general economic conditions, even within a metropolitan area of great economic potential.

Contrary to the downturn of the mid-1970s, homebuilders were able to maintain better control of inventories. Recorded sales activity will tend to lag behind construction activity as builders work to satisfy an expanding demand. The median value of a new home sold in Maricopa County in 1982 was $65,504 based on 6,903 recorded sales, as compared to 12,414 recorded sales in 1981.

Pima County. Pima County reported a 3 percent increase in the single-family sector (2,471 permits to 2,548 permits). The mobile home sector is a major component in Pima County. In 1982, 2,042 mobile home permits were issued, in contrast to 1,414 mobile home

TABLE 3

SINGLE-FAMILY PERMIT ACTIVITY
BY QUARTERS FOR 1982
(Maricopa County)

	Number of Permits	*Dollar Value (millions)*
First Quarter	2,303	$104
Second Quarter	3,903	124
Third Quarter	2,971	123
Fourth Quarter	5,103	193
TOTALS	13,380	$544

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

TABLE 2

KEY SECTOR CONSTRUCTION ACTIVITY: 1981 and 1982

	SINGLE FAMILY		*APARTMENTS*[a]		*COMMERCIAL OFFICE BUILDINGS*[b]		*RETAIL STORES*[c]		*INDUSTRIAL*	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
MARICOPA COUNTY										
1982	13,380	544,471,613	788	219,089,144	240	134,160,100	325	79,941,394	401	109,797,829
1981	12,276	563,983,782	325	197,135,364	337	168,064,703	450	87,172,380	533	140,876,225
PIMA COUNTY										
1982	2,548	138,582,012	59	76,556,818	67	26,688,727	65	18,129,085	15	10,205,055
1981	2,471	138,131,792	51	36,393,735	218	131,876,730	185	96,409,190	16	4,432,625
REST OF ARIZONA										
1982	3,835	156,155,896	87	28,159,188	97	5,380,227	303	41,648,837	76	25,263,973
1981	4,765	195,722,887	68	31,105,847	138	14,375,912	376	33,156,640	92	6,174,011
ARIZONA TOTAL										
1982	19,763	839,209,521	934	323,805,150	404	166,229,054	693	139,719,316	492	145,266,857
1981	19,512	897,838,461	444	264,634,946	693	314,317,345	1,011	216,738,210	641	151,482,861

[a]Five or more housing units.
[b]Office, bank, medical and professional buildings.
[c]Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

permits for Maricopa County. While this sector declined in Maricopa County (from 3,049 to 1,414 permits), Pima County registered an increase from 1,716 permits to 2,042 permits, representing 27 percent of all mobile home permits issued in Arizona.

Rest of Arizona. Contrary to the metropolitan counties, the remaining counties reported a 20 percent decline in single-family activity. This decline occurred in response to adverse economic conditions in the mining and forest products industries. In these nonmetropolitan areas, only Apache County and Cochise County reported increases in the single-family sector. Apache County showed an increase from 125 to 148 permits, while Cochise County—especially in Sierra Vista—tallied an increase from 290 to 407 single-family permits issued. Decreases in excess of 30 percent were reported by Coconino, Gila, Graham, Greenlee, Mohave, Pinal, and Yuma counties.

Mobile home activity declined 7 percent, from 4,568 to 4,245 permits in the nonmetropolitan counties, although activity in the mobile home sector exceeded the single-family sector in the counties of Graham, Mohave, Pinal, and Yuma. A mobile home permit does not necessarily mean the addition of a new housing unit, but can simply represent the movement of units. However, the mobile home sector is very important in the housing markets of the nonmetropolitan counties.

Commercial

The commercial sector includes three to four unit structures, apartments of five or more units, office buildings and retail space. Table 2 summarizes the activity in 1981 and 1982 for key sectors and includes apartment, office building, and retail areas.

Maricopa County. Apartment building was the most active commercial area, with the number of permits increasing 142 percent, from 325 to 788 permits. This level of activity was previously achieved in 1971, with 716 permits. In 1982 the apartment sector accounted for 37 percent of total housing unit permits, compared to the more typical 25 percent market share. Even with this high level of activity, the metropolitan vacancy rate remained fairly stable (around 5 percent for the entire year). The main problems for this sector may prove to be over-building and the resurgence of the single-family sector. The positive fundamental factors are inmigration and the continued increase in the number of small-sized households (young or divorced persons, and/or retired) that need a supply of low-cost, transitional housing.

The three-to-four-unit sector grew significantly, with an 83 percent increase in activity (226 to 415 permits). Much of the increased activity occurred in Mesa (from 49 to 100 permits) and in Phoenix (from 49 to 184 permits). These smaller complexes are attractive to young families, retired couples, and winter visitors, inasmuch as the units tend to be somewhat larger and offer more privacy.

The retail sector continued its downward movement with 325 permits, valued at $79.9 million, compared to last year's 450 permits valued at $87.1 million. The development of new housing subdivisions and increased consumer buying are needed to stimulate a revival in retail construction. Because both these factors will take time, any improvement in the retail sector will not become evident until late 1983 or early 1984.

After setting construction activity records for two consecutive years, the office building sector finally felt the effects of the recession. The number of permits declined 29 percent (from 337 to 240 permits) while dollar value decreased 20 percent (from $168 million to $134 million). The decline was in response to reduced business expansion and consolidation of office activities. The city of Scottsdale was very active, with projects valued at $35 million, compared to the $16 million in 1981. In Phoenix, the Central Avenue corridor and the Camelback Road corridor remained attractive areas for development. Even with declining activity, the continued movement of regional offices, the anticipated growth of the high-technology firms, and the expansion of local firms should stimulate an improving office building sector.

Pima County. As shown in Table 2, Pima County had a construction pattern very similar to that of Maricopa County. Apartment development was much improved over 1981, while the office building and retail sectors registered declines.

Rest of Arizona. Unlike the metropolitan counties, the retail sector in the nonmetropolitan counties recorded an improvement, with 303 permits worth $41.6 million, compared to 376 permits in 1981 valued at $33.2 million. The expansion of this sector recognizes the market potential of the smaller communities.

Although the apartment sector posted a decline, it was still fairly strong with 87 permits worth $28 million, compared to 68 permits valued at $31 million in 1981. The cities of Flagstaff (39 permits), Lake Havasu (5 permits), Casa Grande (2 permits), Prescott (13 permits), and Yuma (4 permits) were the main areas of apartment development. In Maricopa County, an apartment permit represents approximately 30 housing units, while a permit in the nonmetropolitan counties

results in approximately 15 housing units.

Industrial

In order for any area to support a growing population, the industrial base must also expand to provide employment in order to attract and retain people. The industrial sector declined from 641 permits ($151 million) to 492 permits ($145 million), but given the weak economic environment, this level of industrial activity is a very positive indicator for the future of Arizona.

Maricopa County. Most of the decline in industrial activity was in Maricopa County. There was a 24 percent decrease in permit activity (533 to 401 permits) and a 22 percent decrease in dollar value ($141 million to $110 million). An improving economy should lead to increased industrial development activity, especially in warehouses, defense-oriented firms, high-technology firms, and manufacturing firms that support the local market. Tempe was the most active area, with 213 permits valued at $40 million as compared to 259 permits valued at $47 million in 1981. The construction of the Hughes Helicopter plant ($25.5 million) in Mesa has opened this area to industrial development with 29 permits worth $28.5 million, compared to 21 permits at $7.9 million in the previous year. Chandler also had an expanding market, with 9 permits valued at $10.6 million.

Pima County. Industrial activity increased for the first time since the construction of the IBM plant in 1979. During 1982, 15 permits worth $10.2 million were recorded, in contrast to 1981's 16 permits valued at $4.4 million. Continued industrial development in Pima County is needed for the stable economic growth of Arizona.

Rest of Arizona. In the other counties, the industrial base is very limited; hence, any activity can have a profound effect. Industrial development activity registered 76 permits at $25.3 million, compared to 92 permits at $6.2 million in 1981. The major projects were in Flagstaff ($6.5 million warehouse/distribution center), Graham County ($1.8 million cotton gin), and Pinal County ($12.75 million food processing plant). While this represents only a small expansion of the industrial base, any development is useful in creating a diverse economic base that will provide needed employment opportunities.

Other

This sector represents multiple activities and includes the construction of swimming pools and fences, as well as permit renewals and public projects. In a weak construction market, public projects provide a stabilizing force for the construction industry. Severe financial conditions have limited this ability to provide an expanded base of projects.

In Maricopa County the number of permits declined 7 percent (from 19,334 permits to 17,974 permits) while dollar value increased 14 percent ($222 million to $253 million). Pima County reported a significant improvement in dollar value — from $48.4 million to $114.9 million — with a slight decrease in the number of permits (5,636 to 5,325). A similar pattern of increased dollar value ($57 million to $63 million), with a decline in reported permits (7,275 to 7,086) was found in the rest of Arizona.

OUTLOOK FOR 1983

Because recent year-end realities have not lived up to new year expectations, there is considerable concern about presenting a market outlook for 1983. While forthcoming economic data will be erratic, recent forecasts have tended to express cautious optimism for the long-awaited recovery.

The optimism is founded on lower interest rates, slower inflation, declining oil prices, and increased housing activity. Based on this information, the economic recovery could be gathering strength faster than expected. The caution is largely due to the expanding federal deficit and the high level of unemployment, which could adversely affect the strength and duration of the recovery.

Forecasting has been made increasingly difficult by structural changes within both the economy and the real estate industry. The fundamental change is the much discussed shift from an economy based on industrial activity to one based more on services, information, and related high-technology areas. The changes within the financial services industry have been profound within the last few years, with new firms, services, mortgage instruments, deposit accounts, and a change in the national perspective. The real estate industry has begun to change, with the emergence of national companies, new land-use concepts, and increasing consumer and market demands. These fundamental changes affect not only one's knowledge of the present but also that of the future. Therefore, any outlook should be viewed with the realization that not only are events changing, but the fundamental structures of institutions and relationships

are also changing.

The single-family sector is finally expected to show significant improvement throughout 1983. The general expectations for Maricopa County are for total housing starts (single and multi-family) to be in the 30,000 to 35,000 range in 1983. Lower interest rates will be the main stimulus and will allow for some satisfaction of pent-up demand, especially that of renters and newcomers. The same basic expectations should hold for Pima County. However, the housing recovery in the nonmetropolitan counties will not be strong until the mining, forest products, and agricultural industries show strong improvement, which is not expected until late in 1983 or early 1984.

While there is a solid basis for optimism, the recovery is still young, and little is known about its strength and duration. Current mortgage interest rates, while declining are still high by historical standards, making affordability a continuing problem for a large percentage of Arizona households. The biggest threat to the housing recovery is the impact that the increasing federal deficit could have on the credit supply and cost. Increased federal borrowings will not allow interest rates to decline and could even force them back up. The actual role of the federal deficit will not become evident until the second or third quarter of 1983, when lower mortgage interest rates are needed to attract a larger number of consumers.

While declining interest rates are important, consumer behavior is the key factor. The current market tends to be dominated by renters or newcomers; there is little evidence that the move-up consumer is beginning to enter the market. It is this element of the market that gives it strength. However, this element will not increase until there is improved consumer confidence which is directly tied to economic security. Thus, the economy must be perceived as definitely improving before the move-up market again becomes a dominant force.

Arizona is only beginning to develop its economic base. The success in attracting new businesses and maintaining an environment that will induce business expansion will provide the main stimuus for growth in the commercial and industrial sectors. The futures of Maricopa County and Pima County are in the areas of high-technology, services, and office functions. The nonmetropolitan counties need to attract new retail stores, tourist-oriented businesses, and firms that prefer the rural environment. The future of any area is in its ability to develop a growth-oriented economic base to provide employment opportunities.

In Maricopa County, there are increasing signs of recovery in the office sector. Leasing activity is beginning to increase in response to improving business confidence. As the consumer regains confidence and increases spending, the retail sector should begin to expand. However, the retail sector will change through the introduction of new firms and the start of electronic shopping, such as automated teller machines.

In January, 1983 Phoenix Magazine, Inc. and the ASU Arizona Real Estate Institute surveyed the representatives of four real estate groups in Maricopa County: homebuilders; financial services (banks, savings and loan associations, mortgage bankers); real estate brokerage (commercial, residential); and other (appraisal, development, government, property management). In previous surveys the respondents tended to expect significant improvement in various indicators, such as mortgage interest rates, prime interest rate, and inflation. The 1983 survey group expected year-end levels to be little different than current levels. Table 4 presents a consensus forecast as well as the mode (most common) and median (value of the middle item in an ordered range) for each of the major industry sectors. The relative closeness of the mode and median tend to demonstrate a fairly consistent and narrow range of responses.

Each of the three annual surveys has shown that respondents expect prices to increase, but not as much as in previous years. The declining levels of expectations are in response to weak market activity and to reduced inflation pressure. Last year, the respondents tended to agree that new home prices, resale home prices, and land prices would increase around 10 percent. The 1983 group expected price increases for each of the three areas to be nearer 5 percent. Also, a large number of respondents projected either no changes or decreases in the respective price levels.

Relative to the level of confidence in the future, it is interesting to note that 59 percent of the 1983 respondents expect lower year-end mortgage interest rates—contrasted to the 80 percent level of the 1982 survey. A fundamental shift from last year concerns whether the federal government's economic policy will lead to an improving economy. In the previous year's study, 70 percent voiced confidence in this policy, compared to 56 percent in the current survey.

More than 70 percent of the 1983 survey group felt that the local economy, the new home market, and their firm's activity would improve through 1983. In reference to the new, single-family home market, the most common response (30 percent) was that new home

starts would be in the range between 15,000 and 19,000. However, 20 percent of the respondents selected the range between 10,000 and 14,999, while another 23 percent indicated the 20,000 to 24,999 range. A similar pattern developed for new-home closings.

For any market to improve, the participants must have confidence in the future. More than 60 percent of the respondents believe that both consumer and business confidence will improve during the year. A slight majority foresee retail sales, the national economy, and the Phoenix metropolitan employment rate improving in 1983. Opinion is fairly evenly divided as to whether national employment will improve, remain the same, or worsen.

This year's survey, unlike previous ones, found the respondents having a conservative outlook for 1983. On the whole, respondents were optimistic, but looked toward a modest, rather than a significant, improvement. Basically, they are looking for stable interest rates and prices to provide the stimulus for recovery that will lead to a stronger market.

While it appears that both the economy and the real estate market are in the early stages of recovery, the first part of 1983 will produce erratic activity until all aspects of the economy begin to strengthen. Even in an improving market, it must be recognized that the economy, market, and industry are undergoing fundamental changes.

The changes will require increased management and marketing skills in order to productively and successfully confront the challenges of transforming financial environments and market demands. The basic requirements will be: education to recognize the trend of change; motivation to embrace new concepts; planning in order to challenge the market in an efficient and effective manner; control of costs and employee productivity.

The 1983 real estate market in all parts of Arizona will produce different levels of activity that will offer opportunities for success. The underlying question that must be answered is whether one is prepared to participate fully in the recovery.

TABLE 4

EXPECTED PERCENTAGE RATES FOR 1983 ECONOMIC INDICATORS

	Home-building		*Financial Service*		*Real Estate Brokerage*		*Other*		*Consensus*	
Economic Indicators	*Mode*	*Median*	*Mode*	*Median*	*Mode*	*Median*	*Mode*	*Median*	*Mode*	*Median*
Conventional mortgage rate	12.0	12.1	12.0	12.0	12.0	12.1	13.0	12.5	12.0	12.0
FHA mortgage rate	11.0	11.0	11.0	11.0	11.0	11.0	12.0	11.5	11.0	11.0
Prime interest rate	10.0	10.0	9.0	10.0	10.0	10.1	10.0	10.1	10.0	10.0
Inflation rate (Phoenix)	6.0	6.0	5.0	6.0	6.0	6.6	6.0	6.0	6.0	6.0
Apartment vacancy rate	5.0	5.1	5.0	5.2	6.0	6.2	5.0	5.1	5.0	5.1
Commercial interest rate	12.0	13.1	12.0	12.5	12.0	12.9	13.0	13.0	12.0	13.0
Six-month Treasury Bill rate	8.0	8.5	7.0	8.0	8.0	8.1	9.0	9.0	8.0	8.5
Unemployment in Phoenix	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.5	8.0	8.1

Mode = most common response; Median = middle value in range.

Source: Survey conducted by the Arizona Real Estate Institute, College of Business Administration, Arizona State University, 1983.

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	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
APACHE COUNTY	212	3,976,634	26	999,700	—	—	52	3,636,030	290	8,612,364
Eager	74	2,602,950	5	476,000	—	—	31	3,437,680	110	6,516,630
St. Johns	36	—	1	—	—	—	4	—	41	—
Springerville	35	—	4	—	—	—	5	—	44	—
Unincorporated	67	1,373,684	16	523,700	—	—	12	198,350	95	2,095,734
COCHISE COUNTY	1,145	21,259,266	75	10,833,796	3	92,800	1,128	7,827,031	2,351	40,012,893
Benson	64	494,631	4	623,500	—	—	45	237,927	113	1,356,058
Bisbee	56	240,966	—	—	—	—	16	246,800	72	487,766
Douglas	82	777,880	5	1,061,169	—	—	180	3,005,278	267	4,844,327
Huachuca City	67	72,821	—	—	1	20,000	5	60,255	73	153,076
Sierra Vista	344	8,558,916	24	4,272,377	—	—	674	1,607,361	1,042	14,438,654
Tombstone	20	69,450	5	23,450	—	—	30	35,638	55	128,538
Unincorporated	461	10,821,452	29	4,814,200	—	—	134	2,567,832	624	18,203,484
Willcox	51	223,150	8	39,100	2	72,800	44	65,940	105	400,990
COCONINO COUNTY	1,538	32,371,007	39	18,175,929	9	6,875,572	606	18,230,986	2,252	75,653,494
Flagstaff	394	14,024,972	77	13,896,656	5	6,611,500	375	16,725,032	851	51,258,160
Fredonia	33	145,800	2	26,500	—	—	8	48,000	43	220,300
Page	173	1,018,558	3	799,929	2	9,000	49	126,714	227	1,954,201
Unincorporated	898	16,857,582	12	3,177,635	2	255,072	103	1,260,766	1,015	21,551,055
Williams	40	324,095	5	275,209	—	—	71	70,474	116	669,778
GILA COUNTY	767	9,394,304	15	812,846	11	334,498	191	1,210,941	984	11,752,589
Globe	34	176,790	—	—	—	—	26	37,632	60	214,422
Hayden	2	1,000	—	—	—	—	12	34,280	14	35,280
Miami	29	130,800	—	—	—	—	2	17,200	31	148,000
Payson	330	2,166,064	3	142,296	11	334,498	98	213,838	442	2,856,696
Unincorporated	372	6,919,650	12	670,550	—	—	53	907,991	437	8,498,191
GRAHAM COUNTY	385	3,760,885	23	1,312,288	2	1,820,000	60	2,514,723	470	9,407,896
Pima	40	246,351	—	—	—	—	22	62,333	62	308,684
Safford	83	429,672	18	333,888	1	20,000	29	446,700	131	1,230,260
Thatcher	71	1,028,700	1	878,400	—	—	5	888,440	77	2,795,540
Unincorporated	191	2,056,162	4	100,000	1	1,800,000	4	1,117,250	200	5,073,412
GREENLEE COUNTY	21	333,400	2	1,041,000	1	151,000	2	1,400	26	1,526,800
Clifton	6	4,000	—	—	—	—	—	—	6	4,000
Duncan	9	192,900	—	—	—	—	—	—	9	192,900
Unincorporated	6	136,500	2	1,041,000	1	151,000	2	1,400	11	1,329,900
MARICOPA COUNTY	22,641	594,299,935	2,133	571,050,849	401	109,797,829	17,974	253,064,870	43,149	1,528,213,483
Avondale	83	570,443	22	3,038,833	—	—	156	1,146,957	261	4,756,233
Buckeye	25	136,200	1	70,000	—	—	10	24,360	36	230,560
Chandler	1,524	37,936,144	52	7,591,840	9	10,606,080	1,887	25,417,832	3,472	81,551,896
El Mirage	33	81,245	2	11,600	1	186,000	15	181,725	51	460,570
Gila Bend	5	6,045	2	477,000	—	—	13	323,145	20	806,190
Gilbert	152	6,450,187	13	1,640,467	—	—	61	2,105,992	226	10,196,646
Glendale	1,274	26,119,310	97	28,621,425	8	1,036,000	2,007	5,644,048	3,386	61,420,783
Goodyear	20	128,814	—	—	5	211,605	81	279,757	106	620,176
Guadalupe	24	295,578	2	1,828,700	—	—	7	79,500	33	2,203,778
Mesa	2,021	69,461,812	204	56,544,760	29	28,598,108	3,742	75,392,446	5,996	229,997,126
Paradise Valley	217	12,331,128	5	10,741,930	—	—	260	2,637,902	482	25,710,960
Peoria	747	16,233,981	31	6,195,528	4	165,625	729	1,376,454	1,511	23,971,588
Phoenix	8,488	230,937,656	983	315,444,454	119	24,631,896	5,241	95,747,942	14,831	666,761,948
Scottsdale	1,128	62,445,562	125	50,047,915	6	3,338,515	1,582	21,001,024	2,841	136,833,016
Surprise	42	482,889	1	26,400	2	165,000	46	1,559,674	91	2,233,963
Tempe	1,237	51,737,500	361	40,416,900	213	39,967,000	592	6,459,400	2,403	138,580,800
Tolleson	76	424,501	2	1,554,000	2	110,000	13	59,816	93	2,148,317
Unincorporated	5,458	77,989,901	219	45,710,603	2	629,000	1,483	13,180,885	7,162	137,510,389
Wickenburg	14	247,260	7	652,800	1	153,000	15	125,431	37	1,178,491
Youngtown	73	283,779	4	435,694	—	—	34	320,580	111	1,040,053

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	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
MOHAVE COUNTY	2,618	31,760,089	206	19,217,691	—	—	2,474	7,656,615	5,298	58,634,395
Kingman City	208	2,936,054	53	5,084,272	—	—	54	213,501	315	7,933,827
Kingman Area	467	4,350,306	33	1,128,080	—	—	454	890,357	954	6,368,743
Lake Havasu City	312	7,710,095	32	5,393,313	—	—	199	2,931,261	543	16,034,669
Lake Havasu Area	61	470,703	1	116,640	—	—	94	139,427	156	726,770
Mohave Valley N.	788	8,165,491	54	475,134	—	—	957	2,249,055	1,799	16,889,680
Mohave Valley S.	441	4,468,077	11	239,876	—	—	445	712,873	897	5,420,826
Dolan Springs	128	1,243,893	6	204,096	—	—	107	157,875	241	1,605,864
Sacramento Valley	157	1,786,291	4	129,504	—	—	116	270,391	277	2,186,186
Mohave General	56	929,179	12	446,776	—	—	48	91,875	116	1,467,830
NAVAJO COUNTY	1,128	20,467,370	34	2,800,396	12	288,698	264	1,719,019	1,438	25,275,483
Holbrook	8	182,400	4	66,000	—	—	25	131,160	37	379,560
Show Low	125	2,164,881	2	201,000	4	63,500	131	387,207	262	2,816,588
Snowflake	28	—	1	—	—	—	4	—	33	—
Taylor	24	301,000	2	10,000	1	4,000	3	14,800	30	329,800
Unincorporated	877	16,827,340	22	1,179,983	7	221,198	85	1,087,302	991	19,315,823
Winslow	66	991,749	3	1,343,413	—	—	16	98,550	85	2,433,712
PIMA COUNTY	7,489	157,257,717	292	143,337,599	15	10,205,055	5,325	114,890,173	13,121	425,690,544
Marana	11	—	1	—	—	—	3	—	15	—
Oro Valley	36	2,181,580	58	13,801,000	2	264,480	44	673,173	140	16,920,233
South Tucson	97	271,958	2	101,000	1	29,792	71	1,632,348	171	2,035,098
Tucson	2,785	40,267,679	184	106,638,799	7	2,765,183	2,374	63,625,152	5,350	213,294,813
Unincorporated	4,560	114,536,500	47	22,796,800	5	7,145,600	2,833	48,961,500	7,445	193,440,400
PINAL COUNTY	1,628	27,426,908	111	16,386,793	7	13,095,656	759	6,634,674	2,505	63,544,031
Apache Junction	580	9,732,880	62	7,314,918	1	33,744	451	4,385,173	1,094	21,466,715
Casa Grande	138	2,538,730	17	5,961,765	2	262,912	56	1,238,487	213	10,001,894
Coolidge	204	649,193	3	—	—	—	21	61,800	228	710,993
Eloy	34	254,565	2	521,000	—	—	14	399,150	50	1,174,715
Florence	9	68,850	4	397,210	—	—	21	110,284	34	576,344
Kearny	10	34,139	2	92,000	—	—	7	13,300	19	139,439
Mammoth	7	52,000	2	60,000	—	—	1	9,500	10	121,500
Superior	27	164,105	1	2,500	—	—	23	66,447	51	233,052
Unincorporated	619	13,932,446	18	2,037,400	4	12,799,000	165	350,533	806	29,119,379
SANTA CRUZ COUNTY	99	3,365,869	11	471,500	2	117,200	45	693,578	157	4,648,147
Nogales	7	44,418	7	311,000	1	116,000	—	—	15	471,418
Patagonia	15	221,950	—	—	—	—	14	8,132	29	230,082
Unincorporated	77	3,099,501	4	160,5[illegible]	1	1,200	31	685,446	113	3,946,647
YAVAPAI COUNTY	2,248	51,160,759	142	13,972,02[illegible]	13	1,215,550	1,024	5,801,063	3,427	72,149,395
Chino Valley	132	1,826,233	15	383,400	—	—	50	155,236	197	2,364,869
Clarkdale	52	567,931	1	249	—	—	5	27,790	58	595,970
Cottonwood	117	1,349,417	21	488,729	—	—	58	382,320	196	2,220,466
Jerome	42	52,872	4	37,425	—	—	9	10,805	55	101,102
Prescott	427	9,724,951	37	7,898,477	4	797,798	561	2,190,705	1,029	20,611,931
Prescott Valley	289	5,375,729	15	872,143	7	363,752	14	296,298	325	6,907,922
Unincorporated	1,189	32,263,626	49	4,291,600	2	54,000	327	2,737,909	1,567	39,347,135
YUMA COUNTY	1,372	24,872,313	52	10,202,512	16	1,272,999	481	7,017,527	1,921	43,365,351
Parker	14	120,000	2	12,000	—	—	18	232,590	34	364,590
Somerton	53	1,109,543	—	—	—	—	15	92,184	68	1,201,727
Unincorporated	826	17,313,444	25	1,571,171	11	516,620	218	3,035,204	1,080	22,436,439
Wellton	2	39,080	1	10,000	—	—	3	32,816	6	81,896
Yuma	477	6,290,246	24	8,609,341	5	756,379	227	3,624,733	733	19,280,699
Total, Maricopa Co. Annual 1982	22,641	594,299,935	2,133	571,050,849	401	109,797,829	17,974	253,064,870	43,149	1,528,213,483
Total, Maricopa Co. Annual 1981	23,609	616,842,830	2,205	532,931,275	533	140,876,225	19,334	221,645,940	45,681	1,512,296,270
Percent Change	-4	-3	-3	7	-24	-22	-7	14	-5	1
Total, Arizona Annual 1982	43,291	981,706,456	3,221	810,614,922	492	145,266,857	30,385	430,898,630	77,389	2,368,486,865
Total, Arizona Annual 1981	46,016	1,048,097,101	3,706	913,403,157	641	151,482,861	32,245	313,974,352	82,608	2,426,957,471
Percent Change	-5	-6	-13	-11	-23	-4	-5	37	-6	-2.4

*Includes mobile homes

Arizona New Housing Starts: Annual Report

1982

	BUILDING PERMITS ISSUED					
	1 Family	*Mobile Homes*	*Duplex*	*3-4 Families*	*5 or More*	*Total Units*
APACHE CO.	148	37	—	—	2	243
Eagar	49	19	—	—	1	120
St. Johns	12	18	—	—	—	30
Springerville	28	—	—	—	1	34
Unincorporated	59	—	—	—	—	59
COCHISE CO.	407	278	2	2	1	720
Benson	4	20	1	1	1	53
Bisbee	2	—	—	—	—	2
Douglas	7	9	—	—	—	16
Huachuca City	—	9	—	—	—	9
Sierra Vista	215	56	—	1	—	275
Tombstone	1	5	—	—	—	6
Unincorporated	173	172	1	—	—	347
Willcox	5	7	—	—	—	12
COCONINO CO.	489	484	12	2	43	1566
Flagstaff	163	94	11	2	39	778
Fredonia	3	23	—	—	—	26
Page	14	113	1	—	1	153
Unincorporated	307	242	–	—	3	595
Williams	2	12	—	—	—	14
GILA CO.	268	190	—	1	—	462
Globe	3	—	—	—	—	3
Hayden	—	—	—	—	—	—
Miami	—	—	—	—	--	—
Payson	81	105	—	—	—	186
Unincorporated	184	85	—	1	—	273
GRAHAM CO.	40	148	—	—	1	194
Pima	3	15	—	—	—	18
Safford	5	2	—	—	1	13
Thatcher	7	28	—	—	—	35
Unincorporated	25	103	—	—	—	128
GREENLEE CO.	10	—	—	—	1	28
Clifton	—	—	—	—	—	—
Duncan	6	—	—	—	—	6
Unincorporated	4	—	—	—	1	22
MARICOPA CO.	13,380	1,414	160	415	788	26,559
Avondale	11	54	—	1	16	225
Buckeye	3	9	—	—	—	12
Chandler	1,166	—	5	19	25	1,533
El Mirage	—	1	—	—	—	1
Gila Bend	—	—	—	—	1	24
Gilbert	118	3	1	8	—	154
Glendale	884	—	—	—	30	1180
Goodyear	3	—	—	—	—	3
Guadalupe	10	1	—	—	—	11
Mesa	1,611	—	35	100	37	2940
Paradise Valley	67	—	—	—	—	67
Peoria	626	—	8	1	11	914
Phoenix	5,201	254	101	184	554	12,884
Scottsdale	853	—	1	—	21	1,138
Surprise	6	7	1	—	—	15
Tempe	693	—	7	42	66	1,498
Tolleson	5	—	—	—	—	5
Unincorporated	2,115	1,085	—	57	24	3,913
Wickenburg	5	—	1	1	2	23
Youngtown	3	—	—	2	1	19

N/R: No report.

	BUILDING PERMITS ISSUED					
	1 Family	*Mobile Homes*	*Duplex*	*3-4 Families*	*5 or More*	*Total Units*
MOHAVE CO.	456	844	3	6	7	1,485
Kingman City	52	14	—	1	—	70
Kingman Area	30	234	—	—	—	264
Lake Havasu City	162	9	—	1	5	233
Lake Havasu Area	1	28	—	—	—	29
Mohave Valley N.	93	275	3	4	2	487
Mohave Valley S.	56	149	—	—	—	205
Dolan Springs	20	49	—	—	—	69
Sacramento Valley	24	72	—	—	—	96
Mohave General	18	14	—	—	—	32
NAVAJO CO.	424	260	4	2	4	723
Holbrook	4	—	—	—	—	4
Show Low	21	42	2	—	—	67
Snowflake	19	—	—	—	—	19
Taylor	6	10	—	—	—	16
Unincorporated	355	199	2	2	3	565
Winslow	19	9	—	—	1	52
PIMA CO.	2,548	2,042	51	28	59	8,459
Marana	1	9	—	—	—	10
Oro Valley	27	—	—	—	—	27
South Tucson	2	5	—	—	—	7
Tucson	677	502	50	26	53	4,697
Unincorporated	1,841	1,526	1	2	6	3,718
PINAL CO.	406	690	7	48	4	1,370
Apache Junction	132	365	—	39	—	655
Casa Grande	32	—	—	—	2	64
Coolidge	10	14	—	—	—	24
Eloy	4	12	1	—	1	42
Florence	5	1	—	2	1	26
Kearny	—	3	—	—	—	3
Mammoth	2	5	—	—	—	7
Superior	4	1	—	—	—	5
Unincorporated	217	289	6	7	—	544
SANTA CRUZ CO.	61	10	1	2	2	95
Nogales	1	—	—	—	2	17
Patagonia	2	10	—	—	—	12
Unincorporated	58	—	1	2	—	66
YAVAPAI CO.	902	583	12	18	18	1,749
Chino Valley	28	53	—	—	—	81
Clarkdale	9	18	—	—	—	27
Cottonwood	24	18	1	1	1	62
Jerome	—	—	—	—	—	—
Prescott	154	50	4	8	13	348
Prescott Valley	108	93	5	3	1	230
Unincorporated	579	351	2	6	3	1,001
YUMA CO.	224	721	—	1	4	1,011
Parker	2	2	—	—	—	4
Somerton	26	11	—	—	—	37
Unincorporated	147	543	—	—	—	690
Wellton	1	—	—	—	—	1
Yuma	48	165	—	1	4	279
Total, Maricopa Co., Annual, 1982	13,380	1,414	160	415	788	26,559
Total, Maricopa Co., Annual, 1981	12,276	3,049	222	226	325	26,293
Percent Change	8	-53	-27	83	142	1
Total, Arizona, Annual, 1982	19,763	7,701	252	525	934	44,664
Total, Arizona, Annual 1981	19,512	9,378	397	354	444	43,439
Percent Change	1	-17	-36	48	110	2

Arizona Business Scene

Arizona's Newest County: La Paz

La Paz County became Arizona's fifteenth county on January 1, 1983. It was formed out of the northern portion of Yuma County and is Arizona's second least populous county with 12,487 residents in 1980 (Greenlee is least populous). Parker, the new county seat, is the county's only incorporated town.

The new county is located in West Central Arizona, bordered by the Colorado River to the west and the Bill Williams River to the north. The entire county is part of the Sonoran Desert, with low plains and valleys punctuated by frequent, low mountain ranges. The climate is similar to that of the Phoenix area, although rainfall is sparser—less than four inches annually in some places. The rivers, and the lakes created by dams on the rivers, provide a startling contrast to the barren desert. Much of the land in La Paz County is administered by the Bureau of Land Management, with huge tracts of land nearly unpopulated, save for an occasional ranch. Privately owned land is relatively rare, occurring primarily along some sections of the Colorado River and along the major highways. In addition to Parker, the county has several small towns located primarily along U S. Highway 60, the old route to Los Angeles.

More than half of the people in La Paz County live on the Colorado River Indian Reservation, including the town of Parker, which consists of both privately owned and Indian-owned land, completely surrounded by the reservation. The reservation extends for approximately forty miles along the Colorado River, and crosses the river into California. It is home to Mohave, Chemehuevi, Hopi, and Navajo Indians. The Indians have a policy of leasing land to non-Indians, with the result that Indians are in a minority even on the reservation. The population of La Paz County, including the proportion of Indians, is summarized in Table 1.

TABLE 1

1980 POPULATION — LA PAZ COUNTY

	Total Population	*Proportion of Native Americans (Percentage)*
Parker	2,542	11.5
Colorado River Indian Reservation, excluding Parker	4,098	40.2
Remainder of La Paz County	5,847	0.7
Total La Paz County	12,487	15.9

Source: Census of Population and Housing, 1980: Summary Tape File 1A (machine-readable data file), prepared by the Bureau of the Census, Washington, D.C.

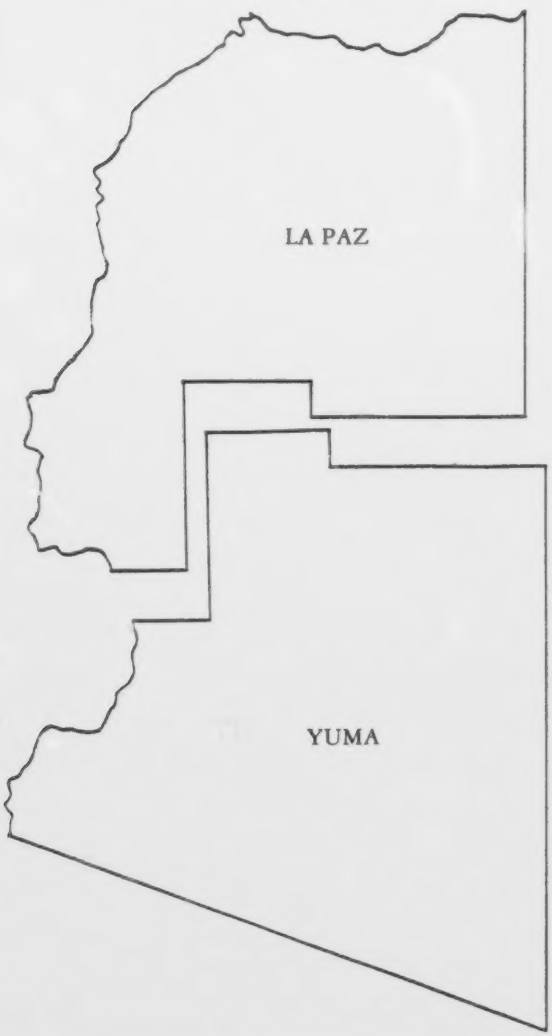
Parker, which is located along the Colorado River, is the hub of the new county. It has been growing steadily, though more slowly than Arizona as a whole, with a 30 percent population increase from 1970 to 1980. Over the past seven years, building permit valuations in Parker have averaged $1.2 million. Most of this construction has been residential, with an average of 29 housing units per year built since 1976.

The area along the Colorado River has been peopled for a long time, with numerous signs of prehistoric

Indian settlements. The Mohave Indians were the local residents at the time of the first Anglo settlement in the 1870s, with the Chemehuevi Indians living to the north. Settlement of the area was spurred by the construction of the Santa Fe Railroad and by commerce on the Colorado River. Mining was a major occupation in those early years. Agriculture became important during the 1940s after construction of the Parker and Headgate Dams on the Colorado River, which provided the area with considerable irrigable land. Parker was founded in 1908 and incorporated in 1948.

FIGURE I

LA PAZ, ARIZONA'S FIFTEENTH COUNTY



Source: Arizona Department of Economic Security, Office of Data Administration, Population Statistics Unit, Arizona State Data Center, November 17, 1982

Today the economy of the area is based upon agriculture and recreation. Agriculture includes both the farming of melons, lettuce, cotton, wheat, barley, and alfalfa on irrigated lands and ranching throughout the remainder of the county. Most of the irrigated land is located on the Colorado River Indian Reservation. The Indians farm some of this land themselves and lease most of the remainder of the irrigated land to large corporations.

Recreation and tourism in La Paz County revolve around the rivers and lakes. Lake Moovalya is located near Parker on the Colorado River, Alamo Lake is located on the Bill Williams River, and Lake Havasu was formed at the junction of the two rivers. Recreation sites include Buckskin Mountain State Park and Ah Villa County Park, both located north of Parker along the Colorado River. Lake Havasu State Park is the county's most heavily attended state park, located near the Mohave-La Paz County line. Other recreation sites and points of interest include Alamo Lake State Park, Kofa Game Range, Imperial National Wildlife Refuge and numerous recreation facilities along the Colorado River on the Indian reservation. The Indians have made a number of leases available for use both as homesites and as recreation sites.

Employment figures clearly show the importance of the agricultural industry in La Paz County. The proportion of workers in the agriculture and mining sector in La Paz County is nearly four times as large as in the state as a whole and is also greater than in the remaining portion of Yuma County, as shown in Table 2. The only other sector proportionately more important in La Paz County than statewide is public administration. There is very little manufacturing in La Paz County, with only 2.4 percent of the work force employed in this sector, compared to 14.5 percent statewide. The services sector and the finance, insurance, and real estate sector each are also relatively less important in La Paz County. A larger portion of the adults in La Paz County, both male and female, are not a part of the work force than in Arizona as a whole. In contrast to Yuma County, La Paz County has almost no military employment.

An overview of other demographic data from the 1980 census is presented in Table 3, comparing La Paz County to the remaining portion of Yuma County and to the state as a whole. La Paz County has a somewhat older population, with a larger percentage of adults that are

married. Because of the Colorado River Indian Reservation, La Paz County has a relatively large proportion of Native Americans; in contrast, Yuma County has a large Hispanic population. The proportion of Arizona-born residents in La Paz County is smaller than statewide, as 20 percent of the residents in 1980 (who were at least 5 years old) have moved to La Paz County from California and other western states since 1975. The educational attainment of adult residents in La Paz County is considerably less than the statewide average and also less than in Yuma County, with 43 percent not graduating from high school. Income levels in La Paz County are also considerably lower. The median income is 36 percent lower than the statewide median and 22 percent lower than the median for Yuma County.

Nearly half of the housing units in La Paz County are mobile homes, compared to 12 percent statewide and 23 percent in Yuma County. There are proportionately fewer housing units of all other types: single family, townhouses, and multifamily dwellings. A large percentage of these housing units in La Paz County are relatively new: 55 percent were built between 1970 and 1980, compared to 49 percent statewide. In contrast, in Yuma County the comparable figure is 42 percent. Both the median rent and the median mortgage payment are considerably lower in La Paz County than in either Yuma County or Arizona, with the median rent 21 percent less and the median mortgage payment 31 percent less than statewide.

Thus, both in economic and demographic terms, Arizona's newest county is different in many ways not only from Arizona in total but from the remaining Yuma County.

TABLE 2

EMPLOYMENT BY INDUSTRY, 1979

	La Paz County (Percentage)	*New Yuma County (Percentage)*	*Arizona (Percentage)*
Agriculture, Forestries, Fisheries, and Mining	20.5	16.0	5.3
Construction	7.8	7.4	8.1
Manufacturing	2.4	6.4	14.5
Transportation, Communication, and Public Utilities	5.7	6.5	6.6
Wholesale and Retail Trade	21.6	22.9	22.1
Finance, Insurance, and Real Estate	3.5	4.0	6.9
Services	25.0	25.2	29.8
Public Administration	13.6	11.5	6.6

Source: Census of Population and Housing, 1980: Summary Tape File 3A (machine-readable data file), prepared by the Bureau of the Census, Washington, D.C.

TABLE 3

SELECTED DEMOGRAPHICS, 1980

	La Paz County	*New Yuma County*	*Arizona*
Total population	12,487	78,067	2,718,215
Median age, in years	32.7	27.3	29.2
Proportion of Native Americans, in percent	15.9	1.6	5.6
Proportion of Spanish origin, in percent	19.2	31.1	16.2
Proportion of single adults, in percent	13.4	16.3	18.8
Proportion of married adults, in percent	51.0	47.3	45.6
Proportion of Arizona born, in percent	25.3	31.3	33.0
Proportion with less than a high school education, in percent	43.0	37.6	27.7
Proportion attended college, in percent	22.6	28.2	38.0
Median family income, in dollars	12,216	15,590	19,019
Average household size	2.69	2.98	2.79

Source: Census of Population and Housing, 1980: Summary Tape Files 1A and 3A (machine-readable data files), prepared by the Bureau of the Census, Washington, D.C.

A Survey of Arizona Business Conditions

HAROLD FEARON

DECEMBER

The Arizona economy finished the year with another month of substandard performance, according to results from the December monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. New orders from customers, production, inventory levels, and employment continued their monotonous downslide, as the contraction continues. The good news is that prices have stabilized and actually declined in December, with the largest drop in more than seven years. Delivery time on shipments from vendors increased slightly for the second straight month, indicating that vendor operating levels may have reached their low point and signaling that factors now are in place for the beginnings of an upturn. The big questions at this point are how soon the recovery will take hold and how vigorous it will be. The real key is interest rates. If interest rates drop further, the 1983 recovery could be a vigorous one, but if continued borrowings to support very large federal deficits begin to force interest rates up, the long-awaited recovery could be choked off almost before it begins. Furthermore, the forecasts of Arizona firms' capital expenditure plans are not encouraging; the forecast for 1983 is the most pessimistic in the past eight years. Of course, further declines in interest rates could cause a reevaluation of those plans.

Dr. Fearon is Professor of Management in the College of Business Administration, Arizona State University.

The purchasing business survey is in its twenty-first year of consecutive monthly reporting on the current status of the Arizona economy. Data are gathered through a questionnaire sent at the close of each month to purchasing managers throughout the state, asking them to indicate the direction of activity — higher, unchanged, or lower — on six key indicators of economic activity in the month just ended. Since these purchasing managers deal daily with the forces of supply and demand, they are able to provide timely and accurate information on current business trends, which enables economic turning points to be spotted.

Prices paid for major purchased items actually fell in December, marking the tenth consecutive month of essentially level prices. Higher prices were reported by only 13 percent of the purchasing managers; 69 percent said prices were unchanged; and 18 percent paid lower prices in December than in November. The December decline was the largest in more than seven years, since May of 1975, and provides continued evidence that inflation is no longer a problem. Of course, as many firms now are finding out, managing in a deflationary economy is a whole new ball game, putting increased emphasis on internal operating efficiency.

Delivery time on shipments from vendors increased again, for the second month in a row. Seventeen percent said it took longer in December to get deliveries from vendors, while 13 percent received faster supplier deliveries. While the increase was small, and at the same rate as in November, the November and December

increases were the first recorded this year; the previous increase occurred in October, 1981. This is a sign that vendor business activity has hit its low point and is an early indication that the turning point is near.

Inventory levels of purchased materials experienced a major drop in December, the largest since this indicator turned negative twenty-two months ago. Sixteen percent added to inventory in December, but a much larger 56 percent cut stocks. The rate of inventory reduction had begun to slow last August, but it appears that the lack of solid evidence showing a turnaround has caused Arizona firms to intensify efforts to reduce inventories even further. While this has put a continuing drag on the economy, when the upswing does begin it is likely to be more vigorous, since it will trigger even larger production increases.

New orders received from customers are still contracting, and at about the same rate as in November. Twenty-six percent saw their new orders increase but a larger 41 percent booked less new business in December than in November. While the monthly decreases in the new order rate during the last half of the year were less than in the first half, the very sluggish level of incoming business persists and is causing further reductions in both production and employment.

Production fell again in December, and the rate of decrease was greater than in either of the previous two months. Twenty-one percent increased output, but almost twice that percentage, 38 percent, reduced production. This was the fifteenth month in a row of production cuts forced by soft new orders.

Employment dropped for the sixteenth consecutive month but at the smallest rate in the past thirteen months (since November of 1981). Eleven percent of the firms increased their work force, but three times that percentage, 32 percent, pared payrolls. December marks the nineteenth consecutive month of declining work force figures.

The results of the December purchasing survey are shown in Table 1.

The special question, asked each December, covering *anticipated* expenditures for new plant and equipment during 1983 indicates that it will be a slow year. The rate of capital expenditure in 1983 is anticipated to drop substantially from the past year. This is the most pessimistic forecast on capital buying since the one made at the end of 1974 and reflects the effects of the current poor economic performance and the uncertainty covering next year's business climate.

When asked to compare capital expenditures *anticipated for 1983* with those actually made in 1982, only 27 percent said their firm would spend more; 26 percent expect no change; and a very large 47 percent forecast a decline. The results from this special question over the past nine years are shown in Table 2.

TABLE 1

DECEMBER PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (December compared to November)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	13	69	18
Delivery time from vendors	17	70	13
Purchased materials inventory level	16	28	56
New orders received	26	33	41
Production	21	41	38
Employment	11	57	32

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

TABLE 2

ANTICIPATED EXPENDITURES FOR NEW PLANT AND EQUIPMENT

Expenditures anticipated for new plant and equipment	*Percent*		
	Higher	*Same*	*Lower*
1983 compared to 1982	27	26	47
1982 compared to 1981	40	19	41
1981 compared to 1980	49	27	24
1980 compared to 1979	54	29	17
1979 compared to 1978	55	28	17
1978 compared to 1977	54	30	16
1977 compared to 1976	48	37	15
1976 compared to 1975	41	28	31
1975 compared to 1974	21	31	48

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

Thus, the Arizona economy finished out the year on a continuing negative note. The recessionary slide has proceeded without pause from its initial start in the third quarter of 1981, and it will go into the record books as the longest and most severe downturn since the 1930s. The price picture is the only really encouraging note, for inflation has been controlled much more rapidly than was expected. Also, the delivery time indicator is giving off an early signal that the turnaround is near. While

capital equipment expenditure plans for 1983 are not encouraging, if the interest rates continue to drop, those plans could be modified somewhat during the new year. The key to any meaningful recovery is a continued return to the lower interest rates which will encourage both business and consumer spending. The new year almost certainly will see better economic performance than the past year; the questions are: how soon? and how much? At this point, it appears that the recovery is close and although it probably will be sustainable over a fairly long period, it will not be as robust as was experienced after the earlier 1974-75 recession.

JANUARY

The long awaited end of the economic downslide and the beginnings of a recovery occurred in January, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. For the first time in well over a year, the new order and production indicators turned positive. Employment continued to decline, but the January drop was the smallest in the past eighteen months. Prices remained stable for the eleventh month in a row, showing that the inflation problem is behind us. While one month does not make a lasting recovery, it appears that the turning point has been reached and the economy now is starting the climb back to a more acceptable level.

Prices paid for major purchased items essentially were unchanged -- January marks the eleventh consecutive month of price stability, providing continuing evidence that inflationary problems are behind us and probably will not surface again in the near future. Higher prices were reported by 22 percent of the purchasing managers; 58 percent said prices were unchanged; and 20 percent said their firm paid lower prices in January compared to December.

Delivery times from vendors remained constant in January. Twenty percent of the firms said it took longer in January to get deliveries from vendors, while an almost equal 19 percent got faster vendor service. This marks the third straight month of constant delivery time, following twelve months of faster deliveries due to lack of order demand faced by vendors. Evidently the steady contraction in incoming orders to vendors has been halted. Depending on the strength and duration of the recovery, vendor delivery times probably will begin to stretch out some over the next quarter.

Inventory levels of purchased materials fell again, but the drop was the smallest in the past four months. Twenty-three percent added to inventory, but a much larger 43 percent cut stocks. If the recovery gains a strong head of steam, additions to inventory likely will begin to occur, since increased activity levels would require firms to beef up their operating stocks, which now are at rather low levels. This action would bolster the upturn.

New orders received from customers went up in January, for the first time since July, 1981 (eighteen months ago), when the recession began to develop. Thirty-seven percent of the firms booked more new business in January than in December, compared to the smaller 30 percent which saw a continued shrinkage of their incoming order books. This turnaround in new orders is the first positive sign that a recovery has begun.

Production also went up in January, following the new order upturn. Higher production was indicated by 32 percent of the firms; a smaller 27 percent cut production further. This was the first increase in production in sixteen months. The last production increase was in September of 1981.

Employment dropped again in January, for the seventeenth consecutive month. Eighteen percent of the firms added to their workforce, but 24 percent pared payrolls. However, the January decrease was the smallest since August of 1981. A net employment upturn normally lags a new order turnaround by a few months, so even if the recovery proceeds smoothly, it probably will be some time before this is reflected in higher payrolls.

The next few months should give a good indication of whether the upturn shown by the January indicators will be sustained and how robust it will be. At least the new year is starting out on a positive note and there now is some light visible at the end of the economic tunnel.

The results of the January purchasing survey are shown in Table 3.

TABLE 3

JANUARY PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (January Compared to December)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	22	58	20
Delivery time from vendors	20	61	19
Purchased materials inventory level	23	34	43
New orders received	37	33	30
Production	32	41	27
Employment	18	58	24

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

FEBRUARY

A strong business recovery developed in February, according to results from the monthly business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. All economic indicators were positive, for the first time since January of 1981—slightly over two years ago—and at that time the economy was facing rampant price increases. Now the Arizona economy is enjoying substantial upward momentum—with stable prices! New orders, production, and employment were all positive, with the largest increases in at least the past twenty months. Certainly, this is good economic news, for it appears that a recovery of solid proportions is building.

Prices paid for major purchased items remained flat, for the twelfth consecutive month. This is the longest period of relative price stability in over twenty years. Higher prices were reported by 18 percent of the purchasing managers; 65 percent said prices were unchanged; and 17 percent paid lower prices in February than in January. This is consistent and convincing evidence that the inflation problem is behind us, at least in the near term. Arizona firms can do their planning now on the assumption of level or even declining prices in the near future because oil price declines have considerably altered any prospects for the resumption of inflation.

Delivery time from vendors stretched out again, for the fourth straight month, and the February increase was the largest since September of 1981. Twenty percent of the firms said it took longer in February to get deliveries from vendors, while a smaller 14 percent got faster vendor service. Delivery times started stretching out last November, following twelve consecutive contractions, as vendors' fatter order books and small inventories have tightened up on supply availability. Further deterioration in vendor service levels likely will occur over the next several months.

Inventory levels of purchased materials increased slightly, following almost two years of consecutive monthly declines which began in February, 1981. Higher inventories were reported by 30 percent of the firms; a slightly-smaller 28 percent cut stocks. The past two years of inventory reductions was one of the key reasons for the turnaround, because firms had pared stocks to such a low level that any increase in demand requires a jump in output. The buildup of inventory now beginning should add a substantial impetus to the recovery.

New orders received from customers went up sharply in February, following the first sign of an increase last month. Forty-two percent of the purchasing managers said their firm booked more new business in February than in January, compared to only 18 percent who saw their orders contract. This was the largest one-month increase since August, 1979 and follows seventeen monthly declines (from August, 1981 to December, 1982). Any gain of this magnitude is welcome news, particularly when it follows on the heels of so many "down" economic months.

Production also enjoyed a very sharp rise—the largest since September of 1979 more than three years ago. Higher production was reported by 43 percent of the firms, while a much smaller 12 percent cut output. This was the second increase in as many months, following fifteen decrease months, and is a reaction to the stronger new order performance.

Employment finally experienced an upturn with the first increase—and a fairly major one—since the employment declines began in June of 1981. Twenty-four percent of the firms added to their workforce, which was more than twice as great as the 11 percent who pared payrolls. This was the largest one-month increase since November, 1979. An employment increase normally lags a recovery in new orders by several months; this rather sudden turnaround is indicative of the strength of the current upswing.

A broad and impressive recovery in the Arizona economy now is underway. The recession bottomed out in December, and the turnaround is moving at a much quicker pace than many had predicted. Further improvements should be anticipated as we move into the spring months. One possible "hitch" is the course of interest rates, because a continuation of the current rates, or a further drop, is crucial to the pace of business advance. The results of the February survey were:

TABLE 4

FEBRUARY PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (February compared to January)		
	Higher	*Same*	*Lower*
Prices paid for major commodities	18	65	17
Delivery time from vendors	20	66	14
Purchased materials inventory level	30	42	28
New orders received	42	40	18
Production	43	45	12
Employment	24	65	11

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona

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ARIZONA BUSINESS

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Report To The Reader

According to the 1980 U.S. Census of Population, on which we report in this issue of *Arizona Business*, the number of Arizonans in the 25-to-34-year-old age group grew 104 percent during the 1970s. In their prime child-bearing years, these young adults generated a minor baby boom in Arizona during a period when the number of children under 5 years old declined in the nation as a whole.

The cost of raising this new generation is rising ever higher, according to the article on the metropolitan Phoenix family-of-four budget for 1982. The cost of housing and medical care led the increases, rising 13.7 percent and 9.0 percent respectively. Clothing cost 5.3 percent more in 1982, due in part to increases in the cost of children's clothing. Reading materials, recreation, and educational supplies were part of the Other Family Consumption category that increased 5.4 percent.

Many of today's children will enter the business world and a new century simultaneously. A neophyte in 21st century corporate America will need to be versed in hybrid management philosophies such as "Theory Z," analyzed in another article in this issue. The young businessperson will also have to be computer literate, especially if he or she plans to pursue a career in Arizona. Our economy's ongoing change from a manufacturing base to a "high-tech" base is noted in the quarterly construction report.

While planning for the future education of today's children in the "business of electronics," the ASU College of Business Administration is also aiding today's high technology businessperson by providing information useful for electronics purchasing, selling, and decision-making. The 1983 *Arizona Electronics Directory* gives data on more than 550 electronics firms in the state, including many large manufacturing firms as well as hundreds of small and medium size companies that produce components, provide services and sell products related to electronics. The directory may be purchased for $25 from the Bureau of Business and Economic Research, College of Business Administration, Arizona State University, Tempe, AZ 85287.

During the 1983-84 fiscal year, *Arizona Business* will continue publication as a quarterly journal. Data that is regularly reported in *Arizona Business* may be obtained on a more timely basis by calling Tom Rex, Research Specialist for the Bureau, at (602) 965-3961.

1980 Census Review: The United States, Arizona, and Maricopa County

TIMOTHY D. HOGAN
TOM R. REX

The population of Arizona grew 53 percent between 1970 and 1980, according to the April 1980 U.S. Census of Population. Arizona was the second fastest growing state in the nation during the 1970s, behind the neighboring state of Nevada, which had a 64 percent growth rate. However, Arizona is still one of the less populous states, with a total population of 2,718,215, ranking 29th among the 50 states.

Although the popular conception of Arizona is that of a state with a wide-open western lifestyle, more than three-quarters of the State's population live in Arizona's two metropolitan areas. The Phoenix Standard Metropolitan Statistical Area (SMSA), which coincides with Maricopa County, had a 1980 census population of 1,509,052[1] and ranked as the 26th largest metropolitan area in the nation. The Tucson SMSA, while much smaller with a 1980 census population of 531,443, is still among the 100 largest metropolitan areas in the United States, ranking 72nd in size.

Both of Arizona's metropolitan areas were among the most rapidly growing SMSAs in the nation during the 1970s. Metro Phoenix ranked fourth among the one hundred largest SMSAs with growth of 55 percent. Metro Tucson grew slightly less rapidly, recording a 51 percent increase in population. Thus, during the 1970-1980 period, the metropolitan areas, with a 54 percent population increase, grew somewhat more rapidly than did the state's rural areas; the 12 nonmetropolitan counties experienced a 50 percent growth rate during the same period.

Given the magnitude of Arizona's growth during the 1970s, substantial changes in the state's demographic characteristics would be expected. This article examines the demographic, social, and economic characteristics of the population of Arizona in general and of Maricopa County in particular, as reported in the 1980 census. In addition, the article explores the changes in population characteristics that took place during the 1970s, using information from the 1970 census.

Changes in family composition, labor force participation, and age distribution had an important impact upon American society during the 1970s. This article examines the U.S., Arizona, and Maricopa County population characteristics reported in the 1980 Census and the changes that have occurred since the 1970 Census. Data in the article and accompanying tables were prepared by the U.S. Bureau of the Census and accessed through the Arizona State Data Center (SDC). Arizona State University is a member of the Center.

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AGE COMPOSITION

A look at the relative changes in age groups within the total population provides further insight into the rapid growth experienced by Arizona during the 1970s (Table 1). For the nation as a whole, the 25-to-34-year-old group grew the fastest, 49 percent, as a result of the aging of the "baby boom" generation. In Arizona, the number of people in this age group increased by 104 percent, reflecting both the "baby boom" and the impact of massive migration of young adults to Arizona and to Maricopa County. This inmigration of young adults in the prime child-bearing ages also generated a "baby boomlet" in Arizona during the 1970-1980 period. While the under-5-year-old and 5-to-14-year-old groups declined in population over the decade in the nation as a whole, the number of children in Arizona expanded rapidly with a 34 percent increase in the under-5-year-old group and a 13 percent increase in the 5-to-14-year-old group.

TABLE 1

POPULATION CHANGE BY AGE
1970-1980

Age Group	*Maricopa County*	*Arizona*	*United States*
Under 5	34.1%	34.4%	- 4.8%
5-14	13.8	13.3	-14.3
15-24	67.9	61.8	19.8
25-34	106.5	104.1	48.8
35-44	55.7	52.1	11.0
45-54	32.4	32.2	- 1.9
55-64	72.4	68.6	16.7
65+	93.4	90.7	27.9

Sources: Census of Population and Housing, 1980: Summary Tape Files 1A (Arizona) and 1C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

Due to low birth rates during the 1920s and 1930s, the 45-to-54-year-old group also decreased in size nationwide between 1970 and 1980. In Arizona, on the other hand, the large volume of inmigration resulted in a 32 percent increase in this segment of the population over the same period.

The age-specific data also demonstrate the magnitude of retirement inmigration to Arizona of individuals 55 years old and over. While both the 55-to-64 and 65-and-over age groups grew in size nationally, the percentage increases in these age groups in Arizona far exceeded the national experience. In particular, the 65-and-over population in the state grew 91 percent over the 1970-1980 period, compared with a 28 percent increase for the United States.

The net impact of all factors affecting age composition was an overall aging of the state's population, with the median age increasing from 26.3 years old in 1970 to 29.2 years old in 1980 (Table 2). At the same time, however, the high rate of inmigration of young adults and its impact upon the number of children, described above, caused the median age of Arizona's population to remain below the national median of 30.0 years.

TABLE 2

MEDIAN AGE AND PROPORTION
OF POPULATION 65 YEARS AND OLDER

	Median Age		*Percentage of Population 65 Years and Older*	
	1970	*1980*	*1970*	*1980*
Maricopa County	27.0	29.7	9.3%	11.6%
Arizona	26.3	29.2	9.1	11.2
United States	28.0	30.0	9.8	11.3

Sources: Census of Population and Housing, 1980: Summary Tape Files 1A (Arizona) and 1C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

Despite substantial inmigration of retired people, the proportion of Arizona's population 65-and-over remained slightly below the U.S. proportion in 1980 (11.2 percent versus 11.3 percent), although the proportion has increased from 9.1 percent in 1970.

HOUSEHOLD AND FAMILY COMPOSITION

Census figures demonstrate that the number of households in Arizona increased 77 percent between 1970 and 1980 (Table 3), which was substantially higher than the 53 percent growth in total population. This figure provides a very clear signal that living arrangements of the state's population changed dramatically during the 1970s. The statistics on household composition (Table 4) reveal that the proportion of total households composed of traditional family groups (husband/wife with dependent children) has declined substantially between 1970 and 1980. While the number of married-couple households in Arizona grew 54 percent, both the number of households with a female head of household and the number of nonfamily households increased much more rapidly (100 percent and 148 percent respectively). In fact, nonfamily

households increased to 26 percent of all Arizona households in 1980.

TABLE 3

NUMBER OF HOUSEHOLDS

	1970	1980
Arizona	540,335	957,032
Maricopa County	302,985	544,759

Sources: Census of Population and Housing, 1980: Summary Tape File 1A (Arizona) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 4

FAMILY TYPE

	Number of Families		*Number of Families With Children Under 18 Years of Age*	
	1970	*1980*	*1970*	*1980*
	Arizona		*Arizona*	
All Families	438,573	705,048	243,625	352,394
Married Couple	386,283	594,827	213,015	286,511
Female Head	42,502	84,773	26,664	54,161
Nonfamily Household	101,762	251,984	—	—
	Maricopa County		*Maricopa County*	
All Families	246,232	397,610	135,980	195,362
Married Couple	217,140	334,696	118,707	157,976
Female Head	24,045	48,266	15,269	30,693
Nonfamily Household	56,753	147,149	—	—

Sources: Census of Population and Housing, 1980: Summary Tape File 1A (Arizona) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 4, Arizona. Prepared by U.S. Bureau of the Census.

Along with other lifestyle changes, the relative decline in childbearing that occurred during the 1970s led to substantial decreases in the proportion of households with children. The proportion of married-couple households in Arizona with children under 18 years old declined from 55 percent in 1970 to 48 percent in 1980. Households with only a female parent did not follow the same trend, however, since the proportion with children actually increased from 63 percent in 1970 to 64 percent in 1980.

These changes in household composition reduced the average household size during the 1970-1980 period. For the state as a whole, the average number of persons per household fell to 2.8 in 1980, down from the 3.2 persons recorded by the 1970 Census. The distribution of households by family size for 1980 is presented in Table 5; these data show that more than one-fifth of all Arizona households are single-person households, with two-person households constituting an additional one-third. Similar trends were also evident for the population of Maricopa County, with the number of nonfamily and single-parent households increasing much more rapidly than traditional family households. The average household size for Maricopa County fell to 2.73 persons in 1980 from 3.14 persons in 1970. Twenty-three percent of the total in 1980 were single-person households.

TABLE 5

HOUSEHOLD SIZE
MARICOPA COUNTY, ARIZONA, AND
THE UNITED STATES, 1980

	Percent of Total Households		
Number of Persons	*Maricopa County*	*Arizona*	*United States*
1	22.7%	20.9%	22.7%
2	34.3	34.6	31.3
3	16.0	16.2	17.4
4	14.3	14.3	15.4
5 or more	12.7	14.0	13.2

Sources: Census of Population and Housing, 1980: Summary Tape Files 1A (Arizona) and 1C (National) (machine-readable data files). Prepared by U.S. Bureau of the Census.

MIGRATION AND MOBILITY

Only one-third of the people enumerated as residents of Arizona in 1980 were born in Arizona (Table 6). This proportion, which is slightly lower than the figure for 1970, is another indication of the large flow of people that continues into Arizona. The proportion of native Arizonans in the 1980 Maricopa County population was only 29 percent. These relatively low proportions contrast sharply with the national experience in which almost two-thirds of the population of the United States was born in the state of their 1980 residence.

TABLE 6

NATIVITY

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Population	967,515	1,509,052	1,693,497	2,718,215	203,211,296	226,504,825
Location of Birth:						
Born in 1980 state of residence	31.9%	28.9%	36.6%	33.0%	67.7%	63.9%
Born in another state	62.9	64.9	57.4	60.1	26.2	28.9
Born abroad (U.S. citizen at birth)	1.1	0.8	1.3	0.9	1.1	0.9
Foreign-born (foreign citizen at birth)	4.0	5.5	4.6	6.0	5.0	6.2

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

Of all people who resided in Arizona in 1980, 6 percent were foreign-born; the proportion of foreign-born residents in Maricopa County was slightly lower (5.5 percent). While the proportion of foreign-born Arizona residents was similar to the proportion recorded nationwide (6.2 percent), distribution of the foreign-born population across the nation was by no means uniform. For example, California's population in 1980 included 15 percent foreign-born, while other sunbelt states such as Arkansas or Alabama had 1 percent or less.

Information on change of residence over the 1975-1980 period also demonstrates the high degree of mobility of the Arizona population (Table 7). Fifty-eight percent of the Arizona population 5 years old and over moved between 1975 and 1980. Almost half of these movers made a major shift in residence from another state (primarily from the West or North Central regions of the country) to Arizona. The proportion of Arizona residents in 1970 who had moved during the 1965-1970 period was somewhat lower, reflecting the increasingly mobile aspect of American society in the 1970s. Similar data for Maricopa County indicate that the metro area's population was slightly more mobile than Arizonans from other areas.

TABLE 7

MIGRATION

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Population, 5 years and older	883,166	1,397,351	1,612,437	2,506,251	186,094,094	210,247,455
Residence 5 years earlier:						
Same House	43.6%	40.2%	44.5%	41.9%	55.9%	53.6%
Different House:						
Same County	28.4	29.8	26.0	27.1	24.6	25.1
Different County:						
Same State	2.8	2.6	5.0	5.0	8.9	9.8
Different State	23.7	25.6	22.6	23.8	9.1	9.7
Abroad	1.5	1.8	1.9	2.1	1.5	1.9

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

EDUCATION

Arizonans generally have had more schooling than the U.S. population as a whole (Table 8). In 1980, 72 percent of those people 25 years old and over were high school graduates and 38 percent had attended college. In comparison, census figures show that 66 percent of the U.S. population 25 years old and over had graduated from high school and 32 percent had attended college. Educational attainment levels for the adult population of Maricopa County were somewhat above statewide levels in 1980: 75 percent had graduated from high school, and 40 percent had attended college.

TABLE 8
YEARS OF SCHOOL COMPLETED

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Population, 25 years and older	510,819	880,920	915,737	1,558,891	109,899,359	132,835,687
School Completed:						
Elementary: 0-8 years	22.7%	12.8%	24.8%	15.0%	28.3%	18.3%
High School: 1-3 years	17.3	12.2	17.1	12.7	19.4	15.3
High School: 4 years	32.2	34.9	31.6	34.3	31.1	34.6
College: 1-3 years	15.0	21.8	13.9	20.6	10.6	15.7
College: 4 years or more	12.8	18.3	12.6	17.4	10.7	16.2

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

The number of people who currently attend school in Arizona (Table 9) did not increase as rapidly between 1970 and 1980 as did the overall population (39 percent compared to 54 percent), primarily due to the aging of the "baby boom" generation into the 20-to-39-year-old range. The growth rate in enrollment in Arizona between 1970 and 1980 varied greatly by grade level: kindergarten and elementary grades through 8th increased only 17 percent, while high school enrollment grew 32 percent and college enrollment grew 149 percent. The growth rate in Maricopa County was somewhat lower, particularly at the college level. Of all Arizona residents at least 3 years old, 29 percent were enrolled in school in 1980.

TABLE 9
SCHOOL ENROLLMENT

	Maricopa County		*Arizona*	
	1970	*1980*	*1970*	*1980*
Total Population Enrolled, 3 years and older	290,213	400,547	535,122	741,677
Kindergarten and Elementary	179,974	209,312	334,317	392,027
High School	69,637	91,948	128,663	170,147
College	40,602	79,287	72,142	179,503

Sources: Census of Population and Housing, 1980: Summary Tape File 3A (Arizona) (machine-readable data file); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 4, Arizona. Prepared by U.S. Bureau of the Census.

LABOR FORCE AND EMPLOYMENT CHARACTERISTICS

The Arizona labor force grew 82 percent during the 1970s to a total of 1.21 million in 1980 (Table 10). This dramatic increase resulted primarily from a 70 percent increase in the state's working-age population (16 years old and over) and expanded labor force participation rates for women. Between 1970 and 1980, the proportion of men 16 years old and over in the labor force fell slightly from 74 to 73 percent, while the female labor force participation rate rose to 48 percent in 1980, up from a 39 percent figure 10 years earlier. Both the men's and women's 1980 participation rates were slightly below the national figures.

TABLE 10
EMPLOYMENT STATUS

	Maricopa County				*Arizona*				*United States*			
	Male		*Female*		*Male*		*Female*		*Male*		*Female*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*	*1970*	*1980*	*1970*	*1980*	*1970*	*1980*
Total Population, 16 yrs. & older	314,740	550,974	344,568	588,469	577,785	985,229	616,770	1,040,876	67,235,510	81,732,090	73,851,760	89,482,168
Labor Force	76.3%	75.2%	42.3%	50.5%	73.8%	72.6%	39.0%	47.9%	76.6%	75.1%	41.4%	49.9%
Armed Forces	2.8	1.7	0.0	0.2	4.4	2.4	0.1	0.3	2.9	1.8	0.1	0.2
Civilian Employed	70.8	69.5	40.4	47.7	66.8	65.8	37.0	44.7	70.8	68.5	39.2	46.5
Civilian Unemployed	2.6	4.0	1.9	2.6	2.6	4.4	1.9	2.9	2.9	4.8	2.1	3.2
Not in Labor Force	23.7	24.7	57.7	49.5	26.2	27.4	61.0	52.2	23.4	24.9	58.6	50.1

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

In the Arizona labor force, the proportion of females rose substantially from 36 percent to 41 percent during the 1970-1980 period. Consequently, the number of two-worker families in the state also increased. Of those families with at least one worker, 60 percent had two or more family members in the labor force in 1980 (Table 11). Statewide, labor force participation by females with children 6 to 17 years old was actually higher than the overall female participation rate, but mothers with preschool children (under 6 years old) had a substantially lower participation rate (45 percent versus 50 percent overall). Growth of the number of working mothers in Arizona far exceeded growth of the state's female labor force in general. The increase was not as pronounced in Maricopa County over the 1970-1980 period, since a much higher proportion of mothers were already in the Phoenix area workforce at the beginning of the decade (Table 12).

Employment can be categorized in various ways, including by occupation, by industry, and by type of employer. Employment by occupation for Arizona and Maricopa County populations is summarized in Table 13. The United States in the 1980s has become a nation of professionals and administrators: 1980 census figures show that 23 percent of all Americans are in professional or managerial occupations, and an additional 30 percent of the U.S. workforce provide support for these professionals and managers in technical, sales, and administrative occupations. The share of the total workforce in either professional or administrative occupations is even higher in Arizona. On the other hand, the proportion of the state's total workforce who are farmers, fishermen, or foresters is lower than the national average — 2.7 percent versus 2.8 percent. In Maricopa County, these trends are even more evident, with almost 60 percent of the labor force in professional/administrative occupations.

TABLE 11

NUMBER OF WAGE EARNERS

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Number of Families	245,575	400,084	438,389	709,912	51,168,599	59,190,133
Families with:						
No Workers	10.7%	15.0%	11.7%	15.9%	9.2%	12.8%
One Worker	36.8	32.0	39.2	33.5	40.0	33.0
Two or More Workers	52.5	53.0	49.2	50.6	50.9	54.2

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 12

EMPLOYMENT OF FEMALES WITH CHILDREN

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Females in Labor Force Who Have One or More of Own Children:						
Children Under 6 Years	33.4%	46.0%	25.0%	44.5%	30.8%	45.7%
Children 6-17 Years	52.2	64.2	41.5	61.4	50.1	63.0

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 13

EMPLOYMENT BY OCCUPATION, 1980

	Maricopa County	*Arizona*	*United States*
Total Employed, 16 yrs. & older	663,624	1,113,270	97,639,355
Occupation:			
Managerial and Professional Specialty	25.1%	24.7%	22.7%
Technical, Sales, Administrative Support	33.1	31.0	30.3
Service	12.4	13.6	12.9
Farming, Forestry, Fishing	2.2	2.7	2.9
Precision Production, Craft, Repair	13.3	14.0	12.9
Operators, Fabricators, Laborers	13.8	14.0	18.3

NOTE: May not add to 100.0 due to rounding.

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files). Prepared by U.S. Bureau of the Census.

As an employer, the service industry is the largest industrial sector in the Arizona economy, with nearly 30 percent of the total 1980 workforce (Table 14). The wholesale/retail trade sector is the next largest employer with 22 percent. Between 1970 and 1980, state employment in the finance, insurance, and real estate sector grew most rapidly, while the proportions employed by the agriculture/mining and the manufacturing sectors actually declined.

Nearly three-quarters of the labor force in Arizona draw wages and salaries from private concerns. Approximately 19 percent work for government, especially at the local level (Table 15). The remainder are primarily self-employed. In Maricopa County, government employs only 15 percent of the labor force, as the private sector is relatively more important. Between 1970 and 1980, the proportion of self-employed has fallen in Arizona and in Maricopa County.

TABLE 14

EMPLOYMENT BY INDUSTRY

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Employed, 16 years and older	362,156	663,624	614,055	1,113,270	76,553,599	97,639,355
Industry:						
Agriculture, Forestry, Fisheries, Mining	3.7%	2.6%	7.1%	5.3%	4.5%	4.0%
Construction	7.4	8.2	7.6	8.1	6.0	5.9
Manufacturing	20.3	17.8	15.6	14.5	25.9	22.4
Transportation, Communication, Public Utilities	5.9	6.7	6.1	6.6	6.8	7.3
Wholesale and Retail Trade	22.5	22.9	21.8	22.1	20.1	20.4
Finance, Insurance, Real Estate	6.7	8.3	5.7	6.9	5.0	6.0
Services	28.4	28.3	29.6	29.8	26.2	28.7
Public Administration	5.1	5.2	6.4	6.7	5.5	5.3

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 15

EMPLOYMENT BY CLASS OF EMPLOYER

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Employed, 16 years and older	362,156	663,624	614,055	1,113,270	76,553,599	97,639,355
Class of Employer:						
Private Wage and Salary	77.2%	78.5%	73.3%	74.0%	75.7%	75.6%
Government	15.3	15.2	18.9	19.3	16.1	17.2
Federal	N/A	3.0	5.1	4.6	4.3	3.9
State	N/A	4.4	5.1	5.7	3.9	4.6
Local	7.9	7.8	8.7	9.0	7.9	8.7
Self-employed	6.9	5.9	7.2	6.2	7.7	6.8
Unpaid Family Worker	0.5	0.4	0.6	0.5	0.5	0.5

N/A = Not Available

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TRANSPORTATION TO WORK

The vast majority (88 percent) of Arizonans commute to work in a private vehicle; this proportion is only slightly higher than the national rate of 84 percent. Of these Arizona commuters, 77 percent drive alone, while the remainder carpool. Only 2 percent of workers use public transportation; the remainder either walk to work or use other means such as a bicycle. In Maricopa County, the means of transportation is nearly the same, though a slightly greater proportion drive alone (Table 16). There was little change from 1970, although fewer people walked to work in 1980 and fewer people worked at home.

Of all households in Arizona, 93 percent own at least one vehicle, with 22 percent owning three or more (Table 17). There were considerably more vehicles available to households in 1980 than in 1970 as the proportion of households with three or more vehicles increased and the proportion without a vehicle decreased. Vehicle ownership in Maricopa County paralleled that of the rest of the State.

TABLE 16

MEANS OF TRANSPORTATION TO WORK

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Employed, 16 years and older	362,156	663,624	614,055	1,113,270	76,553,599	97,639,355
Means of Commuting:						
Private Automobile	88.9%	89.2%	86.5%	87.5%	77.7%	84.1%
Drive Alone	N/A	70.2	N/A	67.7	N/A	64.4
Carpool	N/A	19.0	N/A	19.8	N/A	19.7
Public Transportation	1.3	2.0	1.3	2.0	8.9	6.4
Walked	4.1	3.3	5.9	4.7	7.4	5.6
Other Means	3.6	4.0	4.1	4.0	2.5	1.6
Worked at Home	2.2	1.6	2.4	1.8	3.5	2.3

N/A = Not Available

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 17

VEHICLES AVAILABLE

	Maricopa County		*Arizona*		*United States*	
	1970	*1980*	*1970*	*1980*	*1970*	*1980*
Total Occupied Housing Units	302,633	544,759	539,157	957,032	63,444,750	80,389,673
Vehicles Available:						
One Vehicle	47.1%	37.9%	48.3%	37.1%	47.7%	35.5%
Two Vehicles	35.4	34.3	33.2	34.4	29.3	34.0
Three or More Vehicles	8.7	21.8	8.2	21.8	5.5	17.5
None	8.8	6.0	10.4	6.8	17.5	12.9

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

HOUSEHOLD AND FAMILY INCOME

Median 1979 family income in Arizona was $19,019, somewhat less than the U.S. median family income of $19,908, while the median income for families in Maricopa County was above the national average at $20,480. Median 1979 household income in Arizona was $16,448, less than the family income figure because a greater share of nonfamily households have either no working member or only one wage earner, while families often have two wage earners (Table 18). Median family income in Arizona increased 107 percent from 1969 to 1979, with family income growth in Maricopa County slightly higher at 108 percent. These rates of change exceeded the inflation rate from 1969 to 1979 (106.5 percent in Maricopa County and 103.6 percent nationally, as measured by changes in the Consumer Price Index); so that in real terms (adjusted for inflation), the median family income increased marginally during the 1970s.

Most Arizona households earn the predominant share of their total income from wages or salaries. Table 19 shows that 80 percent of all households in the state had wage, salary, or self-employment earnings; the average amount earned by these households in 1979 was $19,758. More than one-quarter of all Arizona households received payments from the Social Security system in 1979, with the average annual payment being $4,345, while only 5.2 percent of households in the state received public assistance. The mean amount received by these households was $2,261.

TABLE 18

INCOME

	Maricopa County		*Arizona*		*United States*	
	1969	*1979*	*1969*	*1979*	*1969*	*1979*
Median Family	$9,856	$20,480	$9,187	$19,019	$9,590	$19,928
Median Household	8,796	17,729	8,199	16,448	8,486	16,850

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

TABLE 19

HOUSEHOLD INCOME IN 1979 BY INCOME TYPE

	Maricopa County		*Arizona*		*United States*	
	Percent of Households	*Mean*	*Percent of Households*	*Mean*	*Percent of Households*	*Mean*
Earnings	80.9%	$21,114	79.8%	$19,758	81.3%	$20,767
Interest, Dividends, or Net Rental Income	41.9	4,007	39.0	3,836	41.4	3,011
Social Security	26.1	4,421	26.6	4,345	25.9	4,094
Public Assistance	4.5	2,725	5.2	2,261	8.0	2,518
All Other	23.1	5,144	23.9	5,098	23.8	4,057

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files). Prepared by U.S. Bureau of the Census.

To examine differences in income by race, comparisons must be made in terms of *mean* rather than *median* family income figures. Mean income figures varied substantially across racial categories (Table 20). Mean income for both white and Asian families exceeded the statewide mean in 1979 ($23,156 and $22,544 versus $22,123), while mean income figures for black and

TABLE 20

MEAN FAMILY INCOME BY RACE

	Maricopa County		*Arizona*		*United States*	
	1969	*1979*	*1969*	*1979*	*1969*	*1979*
White	N/A	$24,559	$10,826	$23,156	$11,348	$24,217
Black	N/A	16,476	6,662	16,219	7,047	15,754
American Indian	N/A	16,140	N/A	13,090	N/A	16,672
Asian	N/A	23,478	N/A	22,544	N/A	26,456
Spanish Origin	N/A	17,420	8,254	17,205	8,550	17,307
Mean Income of All Races	$11,289	$23,775	$10,501	$22,123	$10,930	$23,144

N/A = Not Available

Sources: Census of Population and Housing, 1980: Summary Tape Files 3A (Arizona) and 3C (National) (machine-readable data files); *Census of Population: 1970,* Vol. I, *Characteristics of the Population,* Part 1, U.S. Summary, and Part 4, Arizona. Prepared by U.S. Bureau of the Census.

American Indian families were far below the overall mean ($16,219 and $13,090 respectively). The mean family income for families of Spanish origin was $17,205. In all cases, mean income figures for Maricopa County families were slightly higher, with the difference particularly evident for American Indian families ($16,140), a difference of more than $3,000.

USING THE 1980 CENSUS INFORMATION

Since 1970, households have become smaller, the number of families headed by a single parent has increased sharply, and labor force participation by women has continued to rise. In addition, the population has aged as fertility has declined and life expectancy has increased.

The many changes in characteristics of the American population have influenced the economy in a multitude of ways. Smaller household size, for example, has meant that consumers are demanding a different type of housing unit and smaller-sized product packages. The growing number of working women has increased demand for labor-saving household appliances and prepared foods. An aging population has increased demand for medical care, decreased demand for child-related products, and reduced school enrollment in many areas.

This kind of information, evident from 1980 census data, is invaluable to managers and planners in business and public agencies. They can use the 1980 census — and other sources of population data — to examine demographic trends for the nation as a whole, for

particular large-scale market regions, or for small geographic areas (down to individual street blocks within urban neighborhoods). Such localized information makes it possible for businesses to evaluate the demographic profiles of individual areas within their overall market region. Similarly, public agencies can use the detailed information to analyze such questions as the number and distribution of the elderly and disabled populations within their jurisdictions.

Those who wish to examine data from the 1980 Census should be aware that a comprehensive summary of data is available through a series of publications from the U.S. Census Bureau. A more detailed report is available on microfiche or computer tape. The publications, computer tapes, and microfiche are available at public libraries or can be purchased directly from the U.S. Bureau of the Census. Specific information or reports derived from the census tapes can also be obtained from a number of other sources, including a growing number of firms in the business of selling demographic information.

To facilitate local access to census data, a cooperative program between the U.S. Census Bureau and the State of Arizona established the Arizona State Data Center. This consortium of government agencies is responsible for the dissemination of census information. The lead agency in Arizona is the Arizona Department of Economic Security; Arizona State University is also a member. Those who wish to obtain additional detailed data from the 1980 Census should contact the State Data Center at the Arizona Department of Economic Security.

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[1]Population counts, in some cases, have been revised several times. For Maricopa County, most printed material shows a population of 1,509,052. However, this count was subsequently corrected to a final count of 1,509,262.

Metropolitan Phoenix Family of Four and Retired Couple Budgets for 1982

TOM R. REX
SUSAN B. SWIRSLEY

1982 BUDGETS FOR METROPOLITAN PHOENIX: FAMILY OF FOUR AND RETIRED COUPLE

Budget costs for a hypothetical Phoenix area family of four and for a retired couple increased in 1982. A family of four required $28,658 to maintain an "intermediate" standard of living, an increase of 5.8 percent from 1981. A retired couple needed $12,205 to maintain the same standard of living, a 6.2 percent increase from 1981.

The Bureau of Business and Economic Research, College of Business Administration at Arizona State University has collected data and reported results of the Urban Family of Four Budget Study since 1968 and the Retired Couple's Budget Study since 1970. The studies are cosponsored by Valley National Bank. Items in the budget, based on consumption patterns determined by the Bureau of Labor Statistics (BLS), are priced during the fourth quarter of each year.

FAMILY OF FOUR BUDGET

The Phoenix area Family of Four Budget Study is based on methodology developed by the BLS, described in Bulletins 1570-1 and 1570-3 (Autumn 1966). The BLS established products, specifications, and quantities to be included in the budget, based on 1963 consumer expenditure surveys. These surveys revealed the goods and services that families were purchasing on a budget that provided for a "moderate" lifestyle. It included expenses related to raising children, maintaining health and social well-being, and participating in community activities. The budget did not reflect average expenditures of a family of four, rather "the collective judgment of families as to what is necessary and desirable to meet the conventional and social as well as physical needs of families of the budget type."[1]

The "budget-type" family of four, though hypothetical, is typical of U.S. urban center families in 1963. It

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In 1982, Housing and Medical Care led the way as costs increased over 1981 for the Phoenix area family of four and retired couple. The budget studies are produced by the ASU Bureau of Business and Economic Research, College of Business Administration, in cosponsorship with Valley National Bank.

Due to discontinuance of the parallel national budget studies by the BLS and to the outdated nature of BLS methodology upon which the Phoenix area studies are based, 1982 marks the last year that the Phoenix area studies will be conducted.

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includes a 38-year-old husband who is employed full-time, a wife who is not employed outside of the home, a 13-year-old son, and an 8-year-old daughter. The family is assumed to be well-established in the community and in good health. The couple has been married for 15 years, and the husband is an experienced worker in his field. The family has accumulated an average inventory of home furnishings, clothing, major durables, and other items. Three-fourths of the families are considered to be homeowners who make mortgage payments on homes they purchased seven years earlier. The remaining one-fourth are renters. This ratio corresponds with Phoenix's current homeowner-renter ratio.

In order to derive the budget, numerous specific items must be priced. Then, the average price of each item is multiplied by the quantity purchased in a year, which results in the annual budget. Neither the specifications of the priced items nor the quantities purchased have been revised and continue to be based on the needs of the early 1960s family. Since lifestyle and consumption patterns have changed significantly in the last 20 years, these specifications and quantities do not necessarily reflect the needs or desires of a current family of four. In addition, today's families would generally change their buying patterns to respond to the fluctuation in prices and availability of commodities. Consumers normally substitute lower priced goods and services for those that have rapidly increased in price. Such substitutions are not included in this budget.

Since changes in the quantity of items purchased have not been considered, the Urban Family of Four Budget in recent years has been most useful for determining the annual percent change in price, rather than the total cost, of certain nearly identical goods and services. However, since the specifications of these goods and services have also not changed over the years, even these percent changes may not accurately reflect the true price changes in the goods and services purchased by today's typical family.

In prior years, the Phoenix area budget could be compared to budgets for 24 other metropolitan areas; the budget studies in these areas were conducted by the BLS. Because the BLS has discontinued the studies, the 1982 Phoenix area data cannot be compared to the data of other areas.

1982 Budget

A hypothetical Phoenix area family of four required $28,658 to maintain a moderate standard of living in 1982. This budget reflects a 5.8 percent increase in costs over the 1981 budget for the same family unit. The largest single reason for this increase was a 13.7 percent rise in the cost of Housing, which is the largest single category of the budget, comprising approximately one-fourth of the family's expenses. The cost of Medical Care also grew a relatively large amount (9.0 percent), but small increases in Food (1.4 percent) and Taxes (2.0 percent) partially offset these large increases. Table 1 compares the major categories of the Phoenix area budget for 1981 and 1982.

TABLE 1

METROPOLITAN PHOENIX FAMILY OF FOUR BUDGET COSTS PERCENTAGE CHANGE, 1981-1982

	1982	*1981*	*Percent Change*
TOTAL BUDGET	$28,658	$27,089	5.8
TOTAL FAMILY CONSUMPTION	21,341	19,943	7.0
Food	6,050	5,964	1.4
Housing	7,067	6,213	13.7
Transportation	2,972	2,823	5.3
Clothing	1,739	1,651	5.3
Personal Care	690	668	3.3
Medical Care	1,719	1,577	9.0
Other Family Consumption[a]	1,104	1,047	5.4
OTHER COSTS[b]	978	930	5.2
TAXES	6,339	6,216	2.0
Social Security	1,921	1,800	6.7
Income Taxes	4,418	4,416	0.0

[a]Other Family Consumption includes reading, recreation, educational supplies, tobacco, alcoholic beverages, and miscellaneous expenses.

[b]Other Costs include life insurance premiums, occupational expenses, and gifts and contributions.

NOTE: Totals may not add due to rounding.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

The Food category is one of three major categories in the family's budget (the others are Housing and Taxes); each category comprises 20 to 25 percent of the total budget. In 1982 the cost of Food increased only 1.4 percent as Food at Home prices increased 1.7 percent and Food Away from Home prices actually decreased by 0.4 percent.

The Housing category is the largest component of the budget. The study assumes that 25 percent of the families are renters and 75 percent are homeowners. Renter costs were 8.0 percent higher in 1982, led by a 34.6 percent increase in utilities, as both electricity and

gas prices surged by large amounts. In contrast, the rent for a three-bedroom house or apartment increased only 4.1 percent to $439 per month.

Homeowner costs increased by a larger amount, 18.5 percent. The BLS assumes that the family has a seven-year-old mortgage. Thus, the change in mortgage costs from 1981 to 1982 (17.2 percent) is based on the change in principal and interest payments from a 1974 to 1975 mortgage. This monthly payment was $277, much less than the monthly rent paid by renter families, and was based on a mortgage amount of $37,416 and an interest rate of 8.0 percent. Utility costs also increased rapidly for homeowners (28.7 percent) as the rates for electricity, gas, and water were all much higher in 1982. Gas rates increased substantially more than other utility rates (49.1 percent); the BLS assumes gas to be the primary utility. The cost of home maintenance and repair also rose by 19.3 percent.

The other components of the Housing category increased more moderately during 1982: 5.4 percent for housefurnishings and 8.0 percent for household operations. Thus, while most Housing components exhibited moderate to large changes in 1982, the category's large 13.7 percent increase was due primarily to higher mortgage and utility costs.

Transportation costs comprise approximately 10 percent of the budget and rose a moderate 5.3 percent in 1982, a much smaller increase than the 14.1 percent of 1981. This moderation in inflation was due to decreases in the cost of gasoline (-3.7 percent) and auto repairs and parts (-0.8 percent), no change in public transportation costs, and a small increase in insurance and fees (0.9 percent). However, the purchase of an automobile, assumed to be nearly half of all transportation expenses, cost 11.0 percent more in 1982.

The other categories of family consumption are all relatively less important in the family's budget. Clothing cost 5.3 percent more in 1982, due to increases in children's clothing and clothing materials and services. Personal Care costs increased only 3.3 percent as the cost of services such as haircuts did not change in 1982, while the cost of supplies rose moderately. Medical Care costs increased a relatively large 9.0 percent in 1982, although this change was less than the 11.9 percent increase in 1981. The cost of hospital-surgical insurance was the primary cause of the 1982 change as the cost of physician visits and dental care remained constant. The last consumption category, Other Family Consumption, increased 5.4 percent in 1982. This category includes reading materials, recreation, educational supplies, tobacco, alcoholic beverages, and miscellaneous supplies. An additional category, Other Costs, is not considered a part of family consumption. It includes life insurance, occupational expenses, and gifts and contributions. The 1982 increase in this category was 5.2 percent.

The other major category of the family budget is Taxes. After several years of rapid growth, the 1982 increase in taxes was only 2.0 percent. Although moderately large increases occurred in both the Arizona income tax (7.8 percent) and the Social Security tax (6.7 percent), the hypothetical family paid $45 (-1.2 percent) less in federal taxes in 1982 than in 1981. This small decrease in federal taxes is the net effect of a larger income and the 10 percent tax cut implemented in 1982.

Distribution of Expenditures

Table 2 presents the percentage of the total budget allocated to each major category. Some of the proportions in 1982 are somewhat different than in 1981 because of the varying inflation rates by category in the family's budget. In particular, the Housing proportion increased from 22.9 percent to 24.7 percent, while the Food category declined from 22.0 percent to 21.1 percent and Taxes declined from 22.9 percent to 22.1 percent.

TABLE 2

METROPOLITAN PHOENIX FAMILY OF FOUR BUDGET PERCENTAGE DISTRIBUTION OF EXPENDITURES AUTUMN 1982

TOTAL BUDGET	100.0
TOTAL FAMILY CONSUMPTION	74.5
Food	21.1
Housing	24.7
Transportation	10.4
Clothing	6.1
Personal Care	2.4
Medical Care	6.0
Other Family Consumption[a]	3.8
OTHER COSTS[b]	3.4
TAXES	22.1

[a]Other Family Consumption includes reading, recreation, educational supplies, tobacco, alcoholic beverages, and miscellaneous expenses.

[b]Other Costs include life insurance premiums, occupational expenses, and gifts and contributions.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

RETIRED COUPLE'S BUDGET

The Phoenix area Retired Couple's Budget Study is

based on BLS methodology, described in Bulletins 1570-4 and 1570-6. The BLS established budget items, specifications, and quantities based on 1965 consumer expenditures surveys that determined which goods and services families were purchasing. The budget provided for a lifestyle described as "an intermediate level of living" for a retired couple in the Phoenix metropolitan area. However, since the BLS has not changed specifications, the items still reflect consumption patterns of the mid-1960s. Thus, this budget study suffers from the same limitations specified earlier for the Family of Four Study and has also been discontinued by the BLS.

The hypothetical retired couple consists of a husband, age 65 or over, and his non-working wife. The couple is self-supporting and lives as a separate household in the Phoenix metropolitan area. They possess an average inventory of clothing and household goods and are in reasonably good health, with Medicare providing for most of their medical needs. Of these retired couples, 65 percent own their home mortgage-free, while the remaining 35 percent rent.

1982 Budget

A hypothetical Phoenix area retired couple required $12,205 to maintain a moderate standard of living in 1982. This budget reflects a 6.2 percent increase over the 1981 budget, a slightly larger percent change than in the previous year. The primary reason for the larger 1982 budget was a 9.0 percent increase in Housing costs, which is the largest single category of the Retired Couple's Budget, comprising approximately one-third of all expenses. A large boost in the cost of Medical Care (17.1 percent) also contributed, but small increases in the cost of Food (1.9 percent) and Transportation (2.3 percent) helped to moderate the overall change in the budget. Table 3 provides detail on the Retired Couple's Budget, comparing 1981 to 1982.

Food is the second largest expenditure for the retired couple, making up approximately 28 percent of their budget. There was a small increase in this cost in 1982 as Food at Home expenses rose 2.3 percent and Food Away from Home expenses decreased 1.5 percent.

Housing costs rose rapidly in 1982 (9.0 percent), due largely to significant increases in the cost of utilities: water (11.7 percent), electricity (16.4 percent), and gas (42.6 percent). In addition, homeowners experienced large increases in the other categories, property taxes (17.2 percent) and repairs and maintenance (17.7 percent). The overall inflation in homeowner costs was 16.6 percent. Retired couples who rent had lower overall increases (8.0 percent) as a small change in contract rent (3.1 percent) helped to offset the large increases in utility rates. For both renters and homeowners, moderate rises in the cost of housefurnishings (4.3 percent) and household operations (4.8 percent) acted to lower the overall change in the Housing budget.

TABLE 3

METROPOLITAN PHOENIX RETIRED COUPLE'S BUDGET PERCENTAGE CHANGE, 1981-1982

	1982	*1981*	*Percent Change*
TOTAL BUDGET	$12,205	$11,488	6.2
TOTAL FAMILY CONSUMPTION	11,474	10,799	6.2
Food	3,371	3,307	1.9
Housing	4,117	3,776	9.0
Transportation	1,312	1,282	2.3
Clothing	525	509	3.1
Personal Care	427	407	4.9
Medical Care	1,162	992	17.1
Other Family Consumption[a]	560	526	6.5
OTHER ITEMS[b]	731	688	6.2

[a]Other Family Consumption includes reading materials, recreation, tobacco, alcoholic beverages, and miscellaneous expenses.

[b]Other Items include gifts and contributions.

NOTE: Totals may not add due to rounding.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

The cost of Transportation for retired couples increased only 2.3 percent in 1982, following a large 12.9 percent change in 1981. This moderation was largely due to sharp decreases in the cost of public transportation, amounting to 10.2 percent for auto owners and 9.4 percent for non-auto owners. In addition, auto owners paid 4.0 percent less for gasoline and only 0.8 percent more for auto repairs and parts. The largest increase in cost was for the purchase of an automobile, up 11.0 percent.

Clothing costs rose modestly in 1982 (3.1 percent) after a large 11.1 percent increase in 1981. Men's clothing cost 1.1 percent less and women's clothing cost only 2.9 percent more in 1982. The cost of clothing materials and services jumped by 11.2 percent, however. Personal Care costs also rose moderately in 1982 (4.9 percent) as the cost of services such as haircuts was up 4.2 percent, and the cost of supplies such as toothpaste and shampoo increased 6.2 percent.

Medical Care costs comprise nearly 10 percent of the

total budget. These costs surged in 1982 by 17.1 percent after an 8.2 percent increase in 1981. Insurance costs led the increase in 1982, but the cost of prescription and non-prescription drugs also rose rapidly (29.0 percent).

The category of Other Family Consumption posted a 6.5 percent increase, due to inflation of 7.5 percent in reading and recreation, 4.4 percent in alcoholic beverages, and 3.5 percent in tobacco products. The cost of Other Items (gifts and contributions) rose 6.2 percent.

TABLE 4

METROPOLITAN PHOENIX RETIRED COUPLE'S BUDGET PERCENTAGE DISTRIBUTION OF EXPENDITURES AUTUMN 1982

TOTAL BUDGET	100.0
TOTAL FAMILY CONSUMPTION	94.0
Food	27.6
Housing	33.7
Transportation	10.7
Clothing	4.3
Personal Care	3.5
Medical Care	9.5
Other Family Consumption[a]	4.6
OTHER ITEMS[b]	6.0

[a]Other Family Consumption includes reading materials, recreation, tobacco, alcoholic beverages, and miscellaneous expenses.

[b]Other Items include gifts and contributions.

NOTE: Totals may not add due to rounding.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University in cosponsorship with Valley National Bank.

Distribution of Expenditures

The relative importance of each of the major categories of the Retired Couple's Budget is shown in Table 4. The most important changes from 1981 were an increase in Housing from 32.9 percent to 33.7 percent, an increase in Medical Care from 8.6 percent to 9.5 percent, and a decrease in Food from 28.9 percent to 27.6 percent.

SUMMARY

The budgets for a hypothetical family of four and for a retired couple posted similar increases in 1982. These increases were somewhat larger than expected in a year in which the rate of inflation decreased dramatically (the rate of inflation measured by the Metropolitan Phoenix Consumer Price Index was only 1.0 percent for the year ending in the fourth quarter of 1982). The difference in the inflation rates measured by these studies can be traced largely to a handful fo major items such as mortgage costs, utility rates, and automobile prices. These differences can be explained by the methodologies, assumptions, and relative levels of importance employed by the family budget studies.

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[1]Bulletin 1570-5, "Three Standards of Living for an Urban Family of Four Persons," Bureau of Labor Statistics, Spring 1967.

Theory Z: A Critical Analysis

RICHARD L. SMITH II

A recent book by William Ouchi, *Theory Z: How American Business Can Meet the Japanese Challenge,* is representative of a genre of new thinking about the U.S. productivity dilemma. It suggests that recent differences in the rate of productivity growth of Japanese versus U.S. industry are attributable to differences in managerial philosophy and style.[1]

Ouchi begins with the fact that Japan's post-World War II productivity has increased more rapidly than that of the United States. He concludes that the Japanese have uncovered a formula for managerial success and that U.S. firms stand to benefit from imitation of the Japanese approach.

The purpose of this article is to identify some possible oversights in the analysis by Ouchi and to outline the conditions under which a firm can expect to benefit from the Theory Z form of organization.

ORGANIZATION TYPES J, A AND Z

Based on his analysis of essential differences between Japanese and American organizations, Ouchi identifies two fundamentally different managerial philosophies. The Japanese philosophy is called Type J; the American philosophy is Type A.

Ouchi attributes the managerial success of Japanese (Type J) organizations to lifetime employment and a generally participative style of management. Employees are "trusted" to seek to advance the corporate good; employee performance is evaluated with "subtlety," and concern with the employee is wholistic. In contrast, he states that American (Type A) organizations are characterized by short-term employment and a more rigid hierarchical or bureaucratic style of management. They rely on explicitly stated objectives, with close surveillance and evaluation, and are relatively unconcerned with the employee as a total person. The essential differences between Type J and Type A organizations are summarized in Table 1.

A Type Z organization is one that has evolved from the other two, combining aspects of each. It provides Type J long-term, possibly lifetime, employment in an environment that is less authoritarian and more trusting than that of the Type A organization. It still employs explicit objectives but does not permit them to dominate the decision-making or employee evaluation process. The rigid hierarchical structure of Type A gives way to an increased emphasis on developing interpersonal skills and collective decision-making, although the *ultimate* responsibility and accountability for decisions still rests with individuals. Finally, Type Z organizations tend to be more concerned with employee welfare than do Type A organizations. According to Ouchi, Hewlett-Packard, Dayton-Hudson, Rockwell International, Intel,

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The difference between U.S. and Japanese productivity gains is explained in part by differences in managerial styles. The Type Z organization combines aspects of Japanese and U.S. management philosophy. This article explores the applicability of Theory Z to U.S. firms.

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Eli Lilly and General Motors are among the firms that have successfully incorporated aspects of Theory Z philosophy.

TABLE 1

The Contrast Between Japanese and American Organizations

	Type J	Type A
1. Employment Duration	Lifetime	Short-term
2. Evaluation and Promotion	Infrequent & Slow	Frequent & Rapid
3. Career Paths	Non-specialized	Specialized
4. Control Mechanisms	Implicit	Explicit
5. Decision-Making Process	Collective	Individual
6. Responsibility	Collective	Individual
7. Focus of Concern	Wholistic	Segmented

Source: William G. Ouchi, *Theory Z: How American Business Can Meet the Japanese Challenge* (Menlo Park, Calif.: Addison-Wesley, 1981): 58.

THE PRODUCTIVITY PROBLEM

This brief outline does not do justice to the richness of Theory Z as a managerial philosophy, but it does describe the basic differences between Type Z and Type A organizations. Certain features of the Type Z organization lend to greater corporate productivity than that achieved by the Type A organization; long-term employment is one such feature. However, the crucial issue upon which the value of Theory Z turns is whether the manager of an American corporation is in a position to choose between Type A and Type Z. Most *successful* managers of large, publicly-owned corporations probably do not have that much latitude, especially given the highly competitive capital (stock and bond) markets in which their corporations operate. The capital markets respond very rapidly to the decisions of corporate managers and provide accurate barometers of managerial success. Firms that operate in such an environment are under pressure to measure up to the performance of their competitors. The result is that effective managerial practices tend to be identified by investors relatively quickly, and ineffective managers tend to be replaced.[2]

Theory Z is essentially a philosophy of large firm organization. The current structure of American industry, with its many large and complex organizations, was significantly shaped by the breakthroughs in communication, transportation, automation and capital raising of the 19th century industrial revolution. One must ask why ideas like Theory Z as formulas for managerial success have been so late to arrive. There is cause for skepticism over any prescription for organizational change that is based on the premise that American management has, in general, been making bad decisions for more than a century.

THE "SURVIVOR PRINCIPLE"

Armen Alchian has argued that competition among firms will force them to select the organizational forms and decision methods that are most conducive to survival of the firm.[3] This "survivor principle" holds true regardless of the wisdom of individual managerial decisions. Any change that tends to increase firm value will be imitated by other firms in the hope that they can duplicate the success. Consequently, those practices inconsistent with maximum firm value will tend to fall from favor. This is essentially the "survival of the fittest" principle, applied to corporations. Theory Z may represent the next step in the evolutionary process. However, if the Type Z organization were universally, or even generally, superior to the Type A organization in the United States, the survivor principle implies that Theory Z principles should have been discovered decades ago, if not deliberately, then by accident or chance. Further, if their application had resulted in greater profits, the principles would have been imitated. Businesses would have found it necessary to adopt the Type Z organization to survive.

It is extremely unlikely that American management would have persisted so universally and steadfastly in a mistake that would leave the American market open to the Japanese or any other foreign country. Individual managers do make mistakes, even decisive ones, but a persistent, widespread bias in management style would have been unlikely.

Nevertheless, it can be safely predicted that *some* corporations will benefit from following the Theory Z philosophy. However, blind adoption of the Type Z organization by others may prove to be a costly experiment that fails. As Ouchi suggests, some will fail because of lack of commitment, but for others the problem is more likely to be that the Type Z organization is not viable given the company's particular niche in the structure of American industry.

A STRUCTURAL ANALYSIS

Rather than presuming that the Type J organization is universally superior to Type A and that a few American businesses have discovered the secret for turning lead into gold by "Going from A to Z," the survivor principle implies that the general pattern of business organization is determined by what works. The existing structures (J, A and Z) have passed the market test of viability.

Instead of "What's wrong with American industry?" the question becomes: What is it about the Japanese economic and social structure that results in the Type J organization being most effective and about the American structure that makes Type A the norm? The answer makes it possible to address the more practical issue facing individual management teams of American corporations: "Would we be more successful with a Type Z organization?" The answer will generally be "no" for one important reason: the corporation's inability to provide long-term employment. Without long-term employment, the other attributes of the Type Z organization will tend to be either unattainable or counterproductive. In the following sections, we consider the conditions under which provision of long-term employment may be inconsistent with profit maximization.

Incentive Incompatibility

A primary cause of inefficiency within large organizations is incompatibility of employee goals with corporate goals. Incentive incompatibility arises whenever an employee sees an opportunity to make himself better off at the expense of investors in the firm. Inability to accurately measure the value of employee output is the essential cause. This "agency" problem, which is widely acknowledged in both management and economics literature, is most apparent in the case of employees who manage profit centers that conduct internal transactions with each other.[4] Allocation of corporate profits from internal transactions is based on a system of transfer prices. If these prices are incorrectly set, the attempts of managers to maximize division "profits" (and indirectly their own incomes) will result in reduced profits for the total organization. In the past, General Motors has dealt with this problem by promoting a degree of competition inside the corporation. Its profit center managers are instructed to buy low and sell high, even if doing so means going to outside suppliers.[5]

A more graphic example of the problem is provided in the biography of John Z. DeLorean, *On a Clear Day You Can See General Motors*.[6] DeLorean was handed the reins of the Chevrolet division in 1969. Prior to his taking control, Chevrolet's profitability had declined substantially to 10.3 percent on book assets for the 1969 model year (this was still not out of line; the company-wide return on assets was 11.6 percent). One of DeLorean's first moves was to arbitrarily restrict new capital investment to 90 percent of annual depreciation. He describes the impact of this move: "Our rate of return on investments (assets) picked up because we were using Chevy's plant and facilities more productively."

In this regard, it should be recognized that any program to delay capital replacement will tend to increase the return on assets *in the short run* for two undesirable reasons. First, the accounting value of depreciation expense will fall due to lack of capital replacement. Second, only super-profitable capital investment projects will be accepted. Others that would yield lower, but still favorable, rates of return will be passed up. The strategy may look good in the short run but is inconsistent with the long-run survival of the firm.

The point is that no system of explicit managerial objectives that serves as a basis for performance evaluation can be made to exactly mesh with the corporate objective of maximizing the value of the stockholders' investment.[7] Profit sharing, stock options and similar programs will not solve this problem since, in large organizations, the value of a share in company profits is almost independent of one's efforts. An employee who "shirks" could receive just as large a share of the profits as one who regularly puts in a twelve-hour day.[8]

Long-Term Employment

Long-term employment is evidence that Type J and Type Z organizations have a fundamental advantage in solving the incentive incompatibility problem. Lifetime employment is more than job security. It is an end result, not a policy. That is, a corporation (at least in the United States) cannot select a policy of lifetime employment, though increasing duration of employment may result from various other policies of the company.

A person continues to work for the same company as long as he believes that the total satisfaction to be derived from that career path, including association, prestige, personal life, etc., is greater than the total satisfaction that could be derived from his next-best opportunity, including the cost of locating and choosing that opportunity. Low turnover or lifetime employment is evidence that most employees regard opportunities

within the corporation as substantially more favorable than those available elsewhere.

A manager in Japan *chooses* to spend his entire productive life with the same company. This is evidence that the rewards with his current employer must be very good *relative* to other opportunities. Readers of *Theory Z* will discover that the flip side of job security in Japan is a relatively dismal prospect for reemployment elsewhere. With the more desirable employers adhering to a policy of internal promotion, there are few opportunities for seasoned managers to benefit from job switching. Beyond this, the post-retirement security of Japanese workers (the retirement age is 55) is provided largely at the discretion of the employer. Managers are not insulated from the risk of post-retirement poverty by a large egalitarian retirement program like Social Security. Rather, a comfortable retirement is one of the rewards for devotion to one's employer.[9]

Limited opportunities for reemployment and the central role of the employer in providing post-retirement security are factors that compel managers in Japanese corporations to *choose* lifetime employment over job switching.

The wide gulf between opportunities within the firm and those elsewhere is an advantage that manifests itself in several ways. Most apparent is that incentives for the employee to exploit the reward structure in order to receive short-run benefits are greatly reduced. Tangentially, the need for frequent review and evaluation of performance is reduced. The employee can be "trusted" since his/her long-run welfare is inextricably tied to the success of the corporation.

Beyond this, the gap in opportunities inside, versus outside, the firm makes the employee more willing to perform tasks that he may not regard as being in his own best interest. The employee's threat to quit, if asked to accept a position short of what he regards as ideal, is not credible if the second-best inside position is still preferable to the best position outside the firm. Thus, the corporation has considerable latitude to move employees internally and to discover the most productive work groups and organizational structures. Their ability to restructure the organization enhances the corporation's ability to accurately assess the productivity of individual workers. The productivity of committee members can be accurately gauged only if individuals may be added to and removed from committees and the impact on committee output observed.[10]

Finally, the divergence between internal and external opportunities enables the corporation to invest in improving the productivity of its employees. Such investments make the employee more valuable both internally and externally, but the cost of the investment (say a year of special training) must be recoverable from the future service of the employee. The corporation recoups its investment by paying the employee less than his value to the company once trained. This practice is only possible if no competitor is willing or able to make a better offer.

Since U.S. firms are unable to significantly restrict job switching by employees, they are generally unwilling to provide the kind of training that would be as valuable to a competitor as it is to themselves. An exception to the rule is professional baseball. Historically, professional teams have maintained farm clubs where new players are trained. By themselves, the farm clubs are unprofitable because the players are paid more than they are worth to the team. Occasionally, however, the farm club investment produces a star player. Until recently, the star was under contract to the club that trained him, and that contract enabled the team to "underpay" him by enough to recover the cost of the farm club investment. The willingness of baseball teams to invest in player development through the farm club system has been threatened recently by the emergence of the free agent. This system allows a player to bargain with anyone for higher pay, making it difficult for a club to recover its training investment. The collapse of the farm club system has been prevented, thus far, by requiring the club that hires a player from another team to compensate that team. The net effect is that players are still not truly free agents.

Short-Term Employment

Ouchi asserts that the difference in employment duration between Japanese and U.S. firms is substantial. This assertion is reasonable, but important institutional factors seem to promote this difference. Economic theory implies that job switching is most likely to occur when a person's prospects with other employers are little different from prospects with his current employer. When this is the case, small changes within the firm, such as a change of supervisors or a change of responsibilities, or small changes in external prospects and environment, like the school system, can result in job switching. Availability of government programs, such as food stamps and tax deductibility of job search and relocation expenses, ease the burden of unemployment and raise the worker's tolerance of being unemployed for several months while in search of a new position.

Frequent and widespread job switching is an impediment to productivity for the three reasons previously mentioned: incentive incompatibility, restricted organizational flexibility, and inability to invest in employee development. A corporation that is able to adopt policies that promote long-term employment will gain on each of these fronts. That is, the company that is assured its employees have low incentives to change jobs can spend fewer resources monitoring employee behavior since their incentives are known to be compatible with the interests of stockholders; it can experiment more with the organizational structure since doing so will not cause a disgruntled employee to quit; and it can invest in employee development since the benefits of that investment are certain to be recouped in the future. The companies that Professor Ouchi describes as Type Z are examples of this kind of success.

Who Can Profit From Type Z Organizations?

For an American firm to profit from Type Z organization, it must be able to solve the short-term employment problem. This is accomplished by widening the gap between an employee's value to his current (Type Z-aspiring) employer and his best outside opportunity. Few firms in the United States are able to accomplish this.

In general, companies that produce similar products and employ people with similar skills will not be successful with the Type Z organization. They are effectively precluded by competition from widening the opportunity gap. They cannot simply offer to pay more since, if one firm could gain by paying more, others could too, and the wage gap would disappear. They could not provide extra training as justification for higher pay, since the training would also make the employee more valuable to competitors, who could afford to pay even more since they did not incur the training cost.

Attempts to make job switching more costly, such as relocating the company to a remote community so that finding and accepting new jobs would be more difficult, would also not work. Whether or not the employee actually decides to change jobs, the opportunity to do so at low cost is valuable to him since it helps insure that his current employer will not seriously underpay him. Thus, a firm that chose to relocate in an isolated area would have to offer additional compensation to attract employees in the first place.

Finally, legal restrictions keep employers from deferring compensation or making the payments contingent upon long-term employment. Except for offering the modest inducements of delayed vesting of pension benefits, the firm can do little to reward long-term employment.

Only two situations make Type Z organization feasible. In the first, a company *requires* specialized skills that cannot be transferred to competitors at full value. This situation is more likely to arise when the workers are engaged in a complex task that requires a high degree of internal communication and teamwork. In such cases, the firm generates significant organizational economies associated with teamwork. The costs of changing teams are high because the output is highly dependent on experience working as a team. In such cases, dedication to organizational goals is more certain.

Second, Type Z organization may be feasible for the largest firm in an industry. Because of scale economies, the large firm may be able to utilize the abilities of its employees more completely than could a small competitor. Other things being equal, a good automobile design is worth more to General Motors than to Ford since General Motors sells roughly twice as many cars. Consequently, General Motors will be able to pay a higher salary to attract the person most capable of producing a good design.

It is not surprising that Ouchi's list of Type Z firms is composed mainly of industry leaders. A person whose training is specialized to the automobile industry will generally be more valuable if he is employed by General Motors than by Ford or Chrysler; hence, turnover will tend to be lower. Opportunities within the firm will generally be better than those outside.

If the largest firm in an industry adopts a strict policy of internal promotion, some of the large firm benefits may trickle down to the number two firm. If General Motors uses internal promotion, Ford may experience reduced turnover. However, this would not be a license for Ford to invest in development of transferable employee skills. Even though the trained worker would prefer Ford over Chrysler, it would be irrational for General Motors to persist in a policy of training its own employees if Ford was willing to provide the training for them. Thus, a strict policy of internal promotion is probably not optimal for the largest firm.

CONCLUSION

Very few firms seem to be well-suited for Type Z organization. Of those that are, many are already reaping the rewards. Type Z organization appears to be less a matter of choice than a semi-automatic response to particular situational factors like high firm specificity of

skills and large size. Such firms will tend to have long-term employment even in the absence of conscious policies to promote it. Furthermore, many of the benefits of low turnover, such as incentive compatibility, also arise more or less spontaneously.

The differences between U.S. and Japanese productivity growth are explained in part by the differences in organizational style discussed here. To the extent that these differences arise from differences in the social structure, such as the presence or absence of social security, there is a trade-off between increasing productivity and egalitarianism. If we are willing to accept the economic costs of existing social programs, we must look elsewhere for productivity gains.

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[1]William G. Ouchi, *Theory Z: How American Business Can Meet the Japanese Challenge* (Menlo Park, Calif.: Addison-Wesley, 1981).

[2]For an analysis of the role of capital markets in disciplining managerial decisions, see Michael C. Jensen and William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* (1976): 305-360; and Eugene F. Fama, "Agency Problems and the Theory of the Firm," *Journal of Political Economy* (1980): 288-307.

[3]Armen A. Alchian, "Uncertainty, Evolution and Economic Theory," *Journal of Political Economy* (1950): 211-221.

[4]Ronald H. Coase, "The Nature of the Firm," *Economica* (1937): 386-405; Armen A. Alchian and Harold Demsetz, "Production, Information Costs and Economic Organization," *American Economic Review* (December 1972): 777-795.

[5]This statement is based on conversations with Godfrey Briefs, Director of Legal Economics, General Motors Corporation.

[6]Patrick J. Wright, *On A Clear Day You Can See General Motors* (Grosse Pointe, Mich.: Wright Enterprises, 1979).

[7]The proof of this statement is provided in Jensen and Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* (1976): 305-360.

[8]The term "shirking" and the analysis supporting this statement is contained in Alchian and Demsetz, "Production, Information Costs and Economic Organization," *American Economic Review* (December 1972): 777-795.

[9]The difference between the value of current employment (to the employee) and the value of the next-best opportunity is known as an appropriable quasi-rent. Such quasi-rents provide effective performance bonds and thus reduce the need to monitor employee activities. See Benjamin Klein, Robert C. Crawford and Armen A. Alchian, "Vertical Integration, Appropriable Rents and the Competitive Contracting Process," *Journal of Law and Economics* (October 1978): 297-326; Benjamin Klein and Keith B. Leffler, "The Role of Market Forces in Assuring Quality," *Journal of Political Economy* (August 1981): 615-641; Oliver E. Williamson, "Transaction-Cost Economics: The Governance of Contractual Relations," *Journal of Law and Economics* (October 1979): 233-263; Michael C. Jensen and William H. Meckling, "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," *Journal of Financial Economics* (1976): 305-360.

[10]The importance of this aspect of the corporate form is discussed by Alchian and Demsetz, "Production, Information Costs and Economic Organization," *American Economic Review* (December 1972): 777-795.

Arizona Construction Activity

JAY Q. BUTLER

FIRST QUARTER

Stimulated by lower interest rates and signs of an improving economy, construction activity continued to improve through the first quarter, 1983. The reported level of activity extends the trend of improvement that began during the third quarter, 1982.

Total construction activity in Arizona was 23,903 permits, valued at $679 million, a 34 percent increase over the 17,732 permits of first quarter, 1982, and a 36 percent increase in dollar value from the $497 million of one year ago. Over the same period, Maricopa County recorded a 50 percent increase in permit activity (from 9,738 to 14,681 permits) and a 35 percent increase in dollar value (from $310 million to $422 million). Specific areas of construction activity are reported in Table 1; the quarterly building permit and new housing starts tables are at the end of this report.

SECTORAL ACTIVITY

Residential

Maricopa County. The single-family sector led construction activity. Table 1 shows single family permits increased 102 percent from 2,302 permits during first quarter, 1982, to 4,670 permits during first quarter, 1983. Due to high interest rates and a poor economy, the majority of consumers have not bought homes for several years. However, surveys conducted by the Arizona Real Estate Institute revealed that people continued to want to buy new homes. As interest rates declined, the consumer entered the market, led by long-term renters and first-time buyers. During the first quarter, there were 2,413 recorded new home sales, compared to the fourth quarter's 2,165 sales and last year's low 1,200 sales.

In order for the new home recovery to continue and expand, the "move-up" consumer must enter the market. Because these people already own homes, resale activity is a good indicator of their expectations. During the first quarter, 8,544 resale homes sold, compared to 8,171 fourth quarter sales and 7,253 sales one year ago.

Rest of Arizona. The single family sector also showed dramatic improvement in Pima County, with a 121 percent increase in permits over one year ago (from 515 to 1,136 permits). Mobile home activity continued to be a significant element of the county's housing market, with 588 permits issued.

The economies of the remaining counties rely mainly on the forest and mining industries, which still do not show strong improvement. Hence, the real estate industry has not recovered in the rest of Arizona as it has in Maricopa and Pima Counties. The 1,040 permits represent only a 26 percent increase over the 825 permits of one year ago. Because the future of these basic industries is still unknown, the housing recovery is expected to be much slower than that of the metropolitan counties.

Commercial

Maricopa County. The multifamily sector (five or

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more housing units) continued at high levels of activity. Table 1 shows 264 first quarter permits, slightly down from the 362 permits reported during the fourth quarter but well above the 89 permits recorded one year ago. Even with this high level of activity, the vacancy level remained at approximately 5 percent. However, concern is increasing that overbuilding might lead to a weaker market.

For several years, the office building sector has been the strongest commercial sector. Due to a weak economy and increasing supply, this sector declined during the last several quarters (see Table 1). Recently, rental activity improved due to the better economy and the announcement of several major projects. Hence, activity in this sector could again increase during upcoming quarters.

The retail sector began to improve in response to stronger consumer demand. Much of this activity, however, was remodeling, not new construction. With several new residential subdivisions under development, retail construction should begin to increase.

Rest of Arizona. An improving multifamily sector was evident during the first quarter in Pima County, with 22 permits ($53 million) in contrast to only 12 permits ($22 million) one year ago. The county's office building sector demonstrated stable activity, and the retail sector showed signs of improvement.

Multifamily activity occurred in Sierra Vista, Kingman, Holbrook, and Cottonwood. The retail sector, usually a strong area of development in the non-metropolitan counties, began a downturn with the declining economy.

Industrial

The weak economy has had a strong impact on the industrial sector. The 88 first quarter permits ($15 million) was the lowest level reported in Maricopa County during the 1980s. Pima County continued to report low levels of industrial activity. In both of the metropolitan counties, increased industrial activity is tied to improvement in the high-tech and warehousing sectors.

In the non-metropolitan counties, industrial activity began to improve, especially in the agricultural and food processing sectors. Improvement was especially evident in Pinal, Coconino, and Yavapai counties. If the rural counties are to grow and provide employment opportunities, the industrial sector must show stronger levels of activity.

LOOKING AHEAD

The key terms for a continuing recovery are "consistency" and "expansion." Currently, the recovery is in an early stage that has attracted a narrow range of consumers and firms. For the recovery to continue, the market must expand to include groups such as the "move-up" consumer and firms wanting to increase their space. This market expansion will occur through a consistency of rental rates, prices, interest rates, and economic conditions. Consistency will provide the positive incentive for people to commit resources to real estate decisions.

The housing sector is expected to add both economic and psychological dimensions to the overall recovery. This sector's rapid expansion in recent months lent credence to statements hailing an economic recovery. The primary cause for recovery in the housing sector was declining interest rates, coupled with fairly stable housing prices. However, during June, 1983, the FHA/VA interest rate moved back up to 12 percent, and conventional interest rates remained near 13 percent. Further, home prices climbed, due to the higher price of materials and land. These increases again raise the specter of unaffordable housing.

During the last several years, the consumer has been reducing debt, and the rate of inflation has been declining. Hence, the consumer is now better able to take on additional debt. To attract more of these consumers to the real estate market, interest rates must decline further (or remain stable), and home prices must stay consistent. These factors, which increase the confidence and willingness of the consumer to buy, seem to be contingent upon a lower federal deficit that would reduce the existing level of credit uncertainty. As a result, conditions would improve in which to lower interest rates, strengthen the economic recovery, and improve the outlook for real estate decision-making.

Another important consideration is the impact on the recovery of changes in the economic base (the much-discussed movement from a manufacturing base to a "high-tech" base) and in the financial services industry. The expansion of "high-tech" firms will be significant for the future development of Pima and Maricopa Counties. The decline in mining will have a negative impact on several rural counties, requiring them to search for their respective economic futures.

It must be recognized that while the economy is improving, it is also changing. These changes will have a fundamental impact on the way one does business and perceives the future. For example, how will electronic

shopping (automatic tellers and catalog stores) effect the need for and type of retail space?

While all signs point to an improving market and economy, the Arizona real estate market is experiencing fundamental changes, also. These changes increase the need for data that will provide a solid foundation for examining and understanding the direction and demands of the Arizona real estate market.

TABLE 1

KEY SECTOR CONSTRUCTION ACTIVITY
(First Quarter 1983, Fourth Quarter 1982, and First Quarter, 1982)

	SINGLE FAMILY		*APARTMENTS*[a]		*OFFICE BUILDINGS*[b]		*RETAIL STORES*[c]		*INDUSTRIAL*	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
MARICOPA COUNTY										
First Quarter, 1983	4,670	188,486,261	264	87,484,873	50	27,067,797	152	15,386,004	88	15,215,540
Fourth Quarter, 1982	5,103	193,137,973	362	108,947,384	64	25,091,033	89	19,051,509	92	37,017,133
First Quarter, 1982	2,302	104,336,988	89	19,947,217	61	37,776,714	92	29,399,540	102	36,119,505
PIMA COUNTY										
First Quarter, 1983	1,136	60,242,377	22	53,644,014	18	4,675,057	18	11,346,011	1	220,000
Fourth Quarter, 1982	816	43,249,316	14	15,259,173	9	4,487,318	9	3,343,796	3	2,122,975
First Quarter, 1982	515	28,477,711	12	22,296,683	12	4,960,480	20	6,379,662	7	4,757,080
REST OF ARIZONA										
First Quarter, 1983	1,040	43,729,582	10	6,180,997	26	2,051,495	58	6,005,120	22	2,037,434
Fourth Quarter, 1982	920	37,832,634	44	11,760,381	28	1,412,544	65	7,546,808	18	13,985,744
First Quarter, 1982	825	38,045,195	15	5,606,469	21	1,535,702	82	10,239,679	6	173,000
ARIZONA TOTAL										
First Quarter, 1983	6,846	292,458,220	296	147,309,884	94	33,794,349	228	32,737,135	111	17,472,974
Fourth Quarter, 1982	6,839	274,219,923	420	135,966,938	101	30,990,895	163	29,942,113	113	53,125,852
First Quarter, 1982	3,643	170,859,894	116	47,850,369	94	44,272,896	194	46,018,881	115	41,049,585

[a]Five or more housing units.
[b]Office, bank, medical and professional buildings.
[c]Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

Arizona Building Permits: Quarterly Report

FIRST QUARTER, 1983

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
APACHE COUNTY	30	563,000	5	10,000	—	—	6	6,000	41	579,000
Eagar	13	487,000	1	10,000	—	—	5	6,000	19	503,000
St Johns	7	—	1	—	—	—	—	—	8	—
Springerville	6	—	3	—	—	—	1	—	10	—
Unincorporated	4	76,000	—	—	—	—	—	—	4	76,000
COCHISE COUNTY	335	7,879,818	14	7,397,114	4	245,000	246	856,878	599	16,378,810
Benson	14	125,300	—	—	—	—	14	27,250	28	152,550
Bisbee	9	29,500	1	26,000	—	—	2	18,000	12	73,500
Douglas	17	96,431	—	—	—	—	40	246,011	57	342,442
Huachuca City	6	8,441	—	—	—	—	1	35,000	7	43,441
Sierra Vista	161	4,617,563	4	5,768,000	2	195,000	127	274,660	294	10,855,223
Tombstone	3	6,250	1	22,000	—	—	28	37,755	32	66,005
Unincorporated	115	2,935,933	6	252,500	1	40,000	18	127,402	140	3,355,835
Willcox	10	60,400	2	1,328,614	1	10,000	16	90,800	29	1,489,814
COCONINO COUNTY	219	6,212,342	10	1,142,370	3	232,500	137	783,703	369	8,370,915
Flagstaff	82	3,622,685	5	706,112	3	232,500	95	467,488	185	5,028,785
Fredonia	15	30,000	—	—	—	—	7	10,700	22	40,700
Page	26	233,140	—	—	—	—	3	98,420	29	331,560
Unincorporated	90	2,271,116	5	436,258	—	—	19	152,345	114	2,859,719
Williams	6	55,401	—	—	—	—	13	54,750	19	110,151
GILA COUNTY	179	1,880,528	7	249,748	7	84,300	48	242,524	241	2,457,100
Globe	3	3,487	—	—	—	—	10	5,542	13	9,029
Hayden	2	500	1	10,000	—	—	2	350	5	10,850
Miami	3	9,200	—	—	—	—	2	3,000	5	12,200
Payson	85	464,002	1	60,048	7	84,300	18	89,832	111	698,182
Unincorporated	86	1,403,339	5	179,700	—	—	16	143,800	107	1,726,839
GRAHAM COUNTY	86	698,260	10	251,438	—	—	20	31,150	116	980,848
Pima	4	67,150	—	—	—	—	3	1,950	7	69,100
Safford	22	74,100	9	233,438	—	—	8	7,700	39	315,238
Thatcher	12	278,700	—	—	—	—	6	13,300	18	292,000
Unincorporated	48	278,310	1	18,000	—	—	3	8,200	52	304,510
GREENLEE COUNTY	2	5,000	—	—	—	—	2	504,000	4	509,000
Clifton	1	—	—	—	—	—	—	—	1	—
Duncan	—	—	—	—	—	—	1	4,000	1	4,000
Unincorporated	1	5,000	—	—	—	—	1	500,000	2	505,000
LA PAZ CO.	76	1,244,580	5	129,680	—	—	29	189,832	110	1,564,092
Parker	11	153,469	1	29,150	—	—	5	35,884	17	218,503
Unincorporated	65	1,091,111	4	100,530	—	—	24	153,948	93	1,345,589
MARICOPA COUNTY	7,392	208,208,959	630	141,371,574	88	15,215,540	6,571	56,954,785	14,681	421,750,858
Avondale	39	200,915	2	252,800	—	—	29	168,178	70	621,893
Buckeye	2	2,000	—	—	—	—	5	101,000	7	103,000
Chandler	637	25,827,139	6	16,613,280	1	69,000	727	2,517,314	1,371	45,026,733
El Mirage	7	7,850	1	1,800	—	—	1	300	9	9,950
Gila Bend	4	8,300	—	—	1	35,000	5	16,600	10	59,900
Gilbert	60	2,679,668	2	353,852	—	—	10	106,377	72	3,139,897
Glendale	509	10,628,687	45	7,908,300	—	—	636	1,492,185	1,190	20,029,172
Goodyear	4	5,250	1	67,000	—	—	11	12,736	16	84,986
Guadalupe	—	—	—	—	—	—	—	—	—	—
Mesa	631	23,392,530	71	23,202,186	4	1,839,619	1,022	18,194,435	1,728	66,628,770
Paradise Valley	67	4,344,024	—	—	—	—	67	968,318	134	5,312,342
Peoria	432	9,536,228	2	138,988	3	116,875	278	471,741	715	10,263,832
Phoenix	1,931	62,367,713	271	68,303,134	29	7,995,614	1,317	22,308,846	3,548	160,975,307
Scottsdale	562	27,973,244	26	5,840,634	5	912,532	483	6,713,011	1,076	41,439,421
Surprise	13	63,979	1	9,600	—	—	10	36,560	24	110,139
Tempe	455	23,666,700	109	14,171,600	45	4,246,900	222	1,956,100	831	44,041,300
Tolleson	28	327,206	—	—	—	—	—	—	28	327,206
Unincorporated	1,993	16,950,691	92	4,278,400	—	—	1,745	1,839,244	3,830	23,068,335
Wickenburg	9	160,480	—	—	—	—	3	51,840	12	212,320
Youngtown	9	66,355	1	230,000	—	—	—	—	10	296,355

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Arizona Building Permits: Quarterly Report (Continued)

FIRST QUARTER, 1983

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
MOHAVE COUNTY	674	9,231,768	60	2,877,790	1	346,320	544	1,014,658	1,279	13,470,536
Kingman City	43	963,075	14	1,085,459	—	—	19	26,030	76	2,074,564
Kingman Area	123	1,052,675	9	358,288	—	—	113	115,152	245	1,526,115
Lake Havasu City	114	2,901,402	7	424,320	—	—	32	162,680	153	3,488,402
Lake Havasu Area	15	136,152	—	—	—	—	19	23,999	34	160,151
Mohave Valley N.	192	2,056,476	19	545,883	—	—	193	302,380	404	2,904,739
Mohave Valley S.	125	1,428,375	4	274,528	—	—	102	251,927	231	1,954,830
Dolan Springs	35	275,644	2	30,720	—	—	39	105,794	76	412,158
Sacramento Valley	17	212,216	2	87,840	—	—	22	21,995	41	322,051
Mohave General	10	205,753	3	70,752	1	346,320	5	4,701	19	627,526
NAVAJO COUNTY	146	2,684,961	5	709,688	—	—	54	239,520	205	3,634,169
Holbrook	2	102,100	2	600,000	—	—	2	1,600	6	703,700
Show Low	18	362,400	—	—	—	—	16	54,500	34	416,900
Snowflake	10	—	—	—	—	—	2	—	12	—
Taylor	1	—	—	—	—	—	—	—	1	—
Unincorporated	91	1,788,400	2	94,688	—	—	12	67,060	105	1,950,148
Winslow	24	432,061	1	15,000	—	—	22	116,360	47	563,421
PIMA COUNTY	2,513	65,268,320	75	72,158,712	1	220,000	1,555	22,986,488	4,144	160,633,520
Marana	1	—	—	—	—	—	—	—	1	—
Oro Valley	24	1,251,615	4	457,735	—	—	8	27,990	36	1,737,340
South Tucson	32	91,100	1	164,500	—	—	22	28,001	55	283,601
Tucson	848	17,429,905	56	51,722,177	1	220,000	793	13,532,797	1,698	82,904,879
Unincorporated	1,608	46,495,700	14	19,814,300	—	—	732	9,397,700	2,354	75,707,700
PINAL COUNTY	506	7,641,698	32	3,057,949	1	56,664	283	2,946,567	822	13,702,878
Apache Junction	168	3,005,370	19	1,687,384	1	56,664	158	1,528,792	346	6,278,210
Casa Grande	49	1,751,412	7	1,061,715	—	—	10	1,194,136	66	4,007,263
Coolidge	42	56,360	—	—	—	—	38	58,336	80	114,696
Eloy	10	15,000	—	—	—	—	7	29,100	17	44,100
Florence	25	67,998	—	—	—	—	16	2,350	41	70,348
Kearny	1	—	—	—	—	—	—	—	1	—
Mammoth	5	137,000	—	—	—	—	1	58,000	6	195,000
Superior	2	212	2	850	—	—	6	1,200	10	2,262
Unincorporated	204	2,608,346	4	308,000	—	—	47	74,653	255	2,990,999
SANTA CRUZ COUNTY	42	1,731,145	1	130,000	—	—	14	182,517	57	2,043,662
Nogales	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	5	48,000	—	—	—	—	5	1,566	10	49,566
Unincorporated	37	1,683,145	1	130,000	—	—	9	180,951	47	1,994,096
YAVAPAI COUNTY	601	16,119,799	28	3,518,699	5	189,032	288	4,905,073	922	24,732,603
Chino Valley	29	625,651	1	4,000	—	—	12	59,818	42	689,469
Clarkdale	7	195,400	—	—	—	—	5	80,500	12	275,900
Cottonwood	24	356,989	6	1,282,689	1	63,600	15	72,910	46	1,776,188
Jerome	2	2,200	—	—	—	—	6	4,122	8	6,322
Prescott	72	1,435,107	5	615,450	1	38,720	127	487,748	205	2,577,025
Prescott Valley	78	3,531,672	2	84,410	1	31,822	39	77,040	120	3,724,944
Unincorporated	389	9,972,780	14	1,532,150	2	54,890	84	4,122,935	489	15,682,755
YUMA COUNTY	234	5,746,174	5	826,999	1	883,618	73	1,199,438	313	8,656,229
Somerton	16	548,609	1	6,000	—	—	5	9,120	22	563,729
Unincorporated	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Wellton	2	6,680	—	—	—	—	4	9,200	6	15,880
Yuma	216	5,190,885	4	820,999	1	883,618	64	1,181,118	285	8,076,620
Total, Maricopa Co. 1st Quarter, 1983	7,392	208,208,959	630	141,371,574	88	15,215,540	6,571	56,954,785	14,681	421,750,858
Total, Maricopa Co. 1st Quarter, 1982	4,893	116,943,788	438	107,648,242	102	36,119,505	4,305	49,622,912	9,738	310,334,447
Percent Change	51	78	43	31	-13	-57	52	14	50	35
Total, Arizona 1st Quarter, 1983	13,035	335,116,352	887	233,831,761	111	17,472,974	9,870	93,043,133	23,903	679,464,220
Total, Arizona 1st Quarter, 1982	9,624	205,235,491	708	168,233,028	115	41,049,585	7,285	82,473,089	17,732	496,991,193
Percent Change	35	63	25	38	-3	-57	35	12	34	36

*Includes mobile homes
N/R: No Report
Note: Some communities do not collect dollar valuations

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Arizona New Housing Starts: Quarterly Report

FIRST QUARTER, 1983

BUILDING PERMITS ISSUED

	1 Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
APACHE CO.	20	6	—	—	—	26
Eagar	11	1	—	—	—	12
St. Johns	1	5	—	—	—	6
Springerville	5	—	—	—	—	5
Unincorporated	3	—	—	—	—	3
COCHISE CO.	140	110	1	—	2	480
Benson	2	5	1	—	—	9
Bisbee	—	—	—	—	—	—
Douglas	1	—	—	—	—	1
Huachuca City	—	—	—	—	—	—
Sierra Vista	102	40	—	—	2	370
Tombstone	—	—	—	—	—	—
Unincorporated	34	60	—	—	—	94
Willcox	1	5	—	—	—	6
COCONINO CO.	96	70	4	3	—	183
Flagstaff	50	16	4	3	—	83
Fredonia	1	11	—	—	—	12
Page	4	21	—	—	—	25
Unincorporated	41	19	—	—	—	60
Williams	—	3	—	—	—	3
GILA CO.	44	65	—	1	—	113
Globe	—	—	—	—	—	—
Hayden	—	—	—	—	—	—
Miami	—	—	—	—	—	—
Payson	19	33	—	1	—	56
Unincorporated	25	32	—	—	—	57
GRAHAM CO.	6	33	—	—	—	39
Pima	2	1	—	—	—	3
Safford	1	—	—	—	—	1
Thatcher	1	9	—	—	—	10
Unincorporated	2	23	—	—	—	25
GREENLEE CO.	—	—	—	—	—	—
Clifton	—	—	—	—	—	—
Duncan	—	—	—	—	—	—
Unincorporated	—	—	—	—	—	—
LA PAZ CO.	15	28	—	—	—	43
Parker	2	—	—	—	—	2
Unincorporated	13	28	—	—	—	41
MARICOPA CO.	4,670	459	80	93	264	9,552
Avondale	—	31	—	—	1	39
Buckeye	—	1	—	—	—	1
Chandler	555	—	2	—	4	1,020
El Mirage	—	—	—	—	—	—
Gila Bend	—	—	—	—	—	—
Gilbert	54	—	—	—	—	54
Glendale	384	—	—	—	11	519
Goodyear	—	—	—	—	—	—
Guadalupe	—	—	—	—	—	—
Mesa	458	—	58	29	20	1,294
Paradise Valley	22	—	—	—	—	22
Peoria	388	—	—	—	1	396
Phoenix	1,130	54	19	39	183	3,534
Scottsdale	513	—	—	3	8	604
Surprise	—	1	—	—	—	1
Tempe	331	—	1	10	30	763
Tolleson	3	2	—	—	—	5
Unincorporated	822	370	—	12	5	1,282
Wickenburg	9	—	—	—	—	9
Youngtown	1	—	—	—	1	9

N/R: No report.

BUILDING PERMITS ISSUED

	1 Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
MOHAVE CO.	161	228	—	1	3	424
Kingman City	23	1	—	—	3	55
Kingman Area	8	68	—	—	—	76
Lake Havasu City	66	—	—	—	—	66
Lake Havasu Area	2	8	—	—	—	10
Mohave Valley N.	25	80	—	1	—	109
Mohave Valley S.	20	48	—	—	—	68
Dolan Springs	5	16	—	—	—	21
Sacramento Valley	5	6	—	—	—	11
Mohave General	7	1	—	—	—	8
NAVAJO CO.	55	35	—	—	1	114
Holbrook	—	—	—	—	1	24
Show Low	4	7	—	—	—	11
Snowflake	7	—	—	—	—	7
Taylor	—	1	—	—	—	1
Unincorporated	36	24	—	—	—	60
Winslow	8	3	—	—	—	11
PIMA CO.	1,136	588	13	9	22	4,054
Marana	1	—	—	—	—	1
Oro Valley	21	—	—	—	—	21
South Tucson	—	5	—	—	—	5
Tucson	332	126	13	9	17	2,126
Unincorporated	782	457	—	—	5	1,901
PINAL CO.	126	206	3	22	—	423
Apache Junction	43	98	—	15	—	201
Casa Grande	19	—	—	3	—	28
Coolidge	—	4	—	—	—	4
Eloy	—	6	—	—	—	6
Florence	1	13	—	—	—	14
Kearny	—	—	—	—	—	—
Mammoth	—	3	—	—	—	3
Superior	—	1	—	—	—	1
Unincorporated	63	81	3	4	—	166
SANTA CRUZ CO.	31	3	—	1	—	38
Nogales	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	—	3	—	—	—	3
Unincorporated	31	—	—	1	—	35
YAVAPAI CO.	270	174	1	5	4	544
Chino Valley	11	9	—	—	—	20
Clarkdale	5	—	—	—	—	5
Cottonwood	4	7	—	3	1	72
Jerome	—	—	—	—	—	—
Prescott	19	18	—	1	—	41
Prescott Valley	48	17	—	—	—	65
Unincorporated	183	123	1	1	3	341
YUMA CO.	76	69	—	—	—	145
Somerton	12	4	—	—	—	16
Unincorporated	N/R	N/R	N/R	N/R	N/R	N/R
Wellton	—	—	—	—	—	—
Yuma	64	65	—	—	—	129
Total, Maricopa Co., 1st Quarter, 1983	4,670	459	80	93	264	9,552
Total, Maricopa Co., 1st Quarter, 1982	2,302	367	36	119	89	4,346
Percent Change	102	25	122	-21	196	119
Total, Arizona, 1st Quarter, 1983	6,846	2,074	102	135	296	16,178
Total, Arizona, 1st Quarter, 1982	3,643	1,904	55	144	116	8,694
Percent Change	87	8	85	-6	155	86

Metropolitan Phoenix Consumer Price Index

FIRST QUARTER, 1983

Prices of goods and services in the Phoenix metropolitan area increased a slight 0.2 percent during the first quarter, 1983, following the large 2.0 percent decline in the previous quarter. The overall price level in the first quarter was 0.3 percent lower than one year ago. This is the first time deflation has occurred over a one-year period since the 1969 beginning of the Metropolitan Phoenix Consumer Price Index (CPI).

The CPI for the Pheonix metropolitan area, on which these inflation figures are based, is prepared by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University. The quarterly CPI results from comprehensive surveys conducted by the Bureau in cooperative cosponsorship with Valley National Bank.

The *Food* category rose modestly in the first quarter, increasing 2.4 percent, the largest quarterly increase since the first quarter, 1981. Food at Home showed a 2.6 percent increase, while Food Away from Home rose 1.9 percent. The largest price change occurred in Fruits and Vegetables, with a 9.1 percent seasonal increase. The survey revealed smaller increases in Cereal and Bakery Products (2.7 percent), Dairy Products (1.9 percent), Meats, Poultry, Fish, and Eggs (1.1 percent), and Other Food at Home (1.1 percent).

In the Fruits and Vegetables category, the boost in prices was spurred by a 20.6 percent rise in fresh fruit prices - the largest quarterly increase since the second quarter, 1979. Fresh vegetables also contributed to the overall increase, with a 14.3 percent rise in prices, up sharply from the 7.1 percent decrease in the previous quarter. Processed vegetables increased a moderate 2.9 percent, partially offset by a slight 1.0 percent decrease in the price of processed fruit.

Cereal and Bakery Products continued a modest upward trend that had begun in the third quarter, 1982. Bakery products were up 3.0 percent, led by a 6.8 percent increase in white bread. The prices of cereal and cereal products rose 2.1 percent, with the largest increase occurring in flour and prepared flour mixes (4.7 percent).

Dairy Products prices were spurred higher by increases in fresh whole milk (5.6 percent) and fresh milk and cream (3.7 percent). The rise in fresh milk prices was the largest since the fourth quarter, 1980.

In the Meats, Poultry, Fish, and Eggs category, the price of eggs increased 11.4 percent; poultry rose 4.2 percent; while other meats increased only 0.4 percent. These increases were partially offset by declines in beef (-0.1 percent) and fish and seafood (-0.5 percent). For the first time since the second quarter, 1981, pork prices did not increase, remaining unchanged.

The price of carbonated drinks, excluding non-dietary cola, soared 20.7 percent but was offset in part by a 12.4 percent decline in cola drinks, excluding diet cola. As a result, Other Food at Home showed a moderate overall increase. Other increases were noted for margarine (4.3 percent), and sugar and artificial sweeteners (4.5 percent).

The *Housing* category declined 0.5 percent in the first quarter, 1983. Following a large decrease in the previous quarter, *Housing* costs were 4.2 percent lower than one year ago. The decrease was due to lower Shelter costs, slightly offset by small increases in Fuel and Other Utilities, and Household Furnishings and Operations.

Shelter costs declined for the fourth consecutive quarter. A 4.1 percent drop in mortgage interest rates contributed largely to the 0.7 percent decline in Shelter costs. The other major Shelter components posted small increases as Residential Rent rose 0.8 percent, and home purchase prices increased 0.2 percent.

The cost of Fuel and Other Utilities rose 0.2 percent in the first quarter, following a large decline in the previous quarter. The price of electricity dropped 2.1 percent in the first quarter, while gas prices remained unchanged. The cost of electricity was 4.7 percent lower than it was one year ago. The cost of telephone service rose, contributing to the category's small increase.

Household Furnishings and Operations posted an increase of 0.2 percent in the first quarter. Decreases in the prices of furniture, household appliances, and household textiles were offset by price increases in other household equipment, housekeeping supplies, and housekeeping services.

Apparel and Upkeep costs posted a slight increase of 0.6 percent in the first quarter, after two consecutive quarters of decreasing prices. Men's Apparel increased 1.3 percent, while Boys' Apparel decreased 4.9 percent. Decreases in Women's Apparel (-0.8 percent) and Girls' Apparel (-0.7 percent) were offset by a 2.4 percent increase in footwear.

Transportation costs dropped 1.9 percent in the Phoenix metropolitan area. Private Transportation costs decreased 1.7 percent overall, despite increases in all but one category. A 3.1 percent increase in new car prices, reflecting the new model year, and a 2.7 percent rise in used car prices led the increases. Vehicle maintenance and repair costs rose 2.0 percent, following a large increase last quarter. Consumers paid 3.0 percent more for vehicle parts and equipment, and 4.1 percent more for vehicle insurance. These price increases were offset by a sharp drop in gasoline prices (-14.8 percent); the price of gasoline was 17.2 percent lower than it was one year ago. Public Transportation costs fell for the second consecutive quarter by 4.7 percent. A drop of 9.3 percent in airline fares was primarily responsible for the decrease.

The cost of *Medical Care* in the Phoenix area rose 3.0 percent in the first quarter, making it 14.2 percent more expensive than it was last year. The first quarter's increase was led by health insurance costs, which rose 6.4 percent and were 31.5 percent higher than they were one year ago. The cost of prescription drugs increased 3.5 percent, and the cost of hospital and other medical care services rose 3.1 percent, due primarily to a 5.0 percent increase for hospital rooms. Professional services rose a modest 0.9 percent, with an increase of 0.9 percent in physicians' services.

Consumers paid 1.7 percent more for *Entertainment* as costs increased in each subcategory. Toys and hobbies showed the largest increase (4.4 percent), followed by sporting goods and equipment (1.7 percent).

Other Goods and Services became 2.6 percent more expensive, spurred mainly by increases in tobacco products and smoking accessories (6.6 percent), as cigarette prices again surged. The cost of Personal Care rose a moderate 2.3 percent, due largely to increases in toilet goods (9.4 percent) and cosmetics, bath and nail preparations, manicure items and eye makeup (6.7 percent). The cost of legal, bank, accounting, funeral, and other personal services decreased 1.4 percent, the second consecutive quarter of decline.

Prices in each of the comparison areas, Chicago, Los Angeles, and the United States as a whole, declined in the first quarter, one quarter later than the large decrease in the Phoenix metropolitan area. The quarterly increase in the Phoenix area was larger than in each of the comparison areas in the categories of *Food* and *Apparel and Upkeep*. Despite the large decline in *Transportation* costs in Phoenix, the comparison areas each had a larger decrease. *Housing* costs dropped more in Phoenix than in each of the other areas.

The percentage change in ALL ITEMS from one year ago was less in Phoenix (-0.3 percent) than it was in the United States (3.5 percent), Chicago (6.8 percent), and Los Angeles (0.4 percent). The one-year price increases for the Phoenix area were larger than in the comparison cities in the categories of *Medical Care* and *Food at Home*. However, in both *Housing* and *Other Goods and Services*, the increases in the Phoenix area during the past year were less than in the comparison areas.

CONSUMER PRICE INDEX
FIRST QUARTER, 1983
Metropolitan Phoenix
(1977=100)

Group	Last Qtr. Index	This Qtr. Index	Percentage Change	Year Ago Change	1969 Base Index
ALL ITEMS	167.2	167.6	0.2	-0.3	260.4
Food and Beverages	153.8	157.3	2.3	3.3	245.9
Food	154.3	158.0	2.4	3.2	251.1
Food at Home	154.2	158.3	2.6	3.4	262.6
Cereal and Bakery Products	158.0	162.3	2.7	3.9	264.4
Meats, Poultry, Fish, and Eggs	154.8	156.5	1.1	3.9	249.1
Dairy Products	152.2	155.1	1.9	4.6	234.1
Fruits and Vegetables	145.7	159.0	9.1	4.3	274.4
Other Food at Home	146.4	148.0	1.1	1.5	286.6
Food Away from Home	152.0	154.8	1.9	2.5	227.6
Housing	180.0	179.2	-0.5	-4.2	259.3
Shelter	193.1	191.7	-0.7	-7.1	266.3
Residential Rent	145.3	146.5	0.8	4.2	198.1
Homeownership	210.1	207.8	-1.1	-9.7	277.7
Homeowners' Financing, Taxes and Insurance	215.5	212.1	-1.6	-10.9	0.0
Mortgage Interest Rates	152.9	146.7	-4.1	-26.9	0.0
Home Purchase	192.6	192.9	0.2	0.3	0.0
Fuel and Other Utilities	149.2	149.5	0.2	3.4	298.0
Gas and Electricity	166.3	164.0	-1.4	1.7	0.0
Household Furnishings and Operations	140.4	140.6	0.2	2.6	217.9
Apparel and Upkeep	131.6	132.4	0.6	1.8	193.2
Transportation	163.3	160.3	-1.9	-1.4	267.0
Private Transportation	161.1	158.4	-1.7	-0.8	263.9
New and Used Cars	153.3	158.6	3.5	6.2	0.0
Gasoline	204.5	174.2	-14.8	-17.2	0.0
Public Transportation	202.3	192.8	-4.7	-12.1	311.6
Medical Care	181.6	187.1	3.0	14.2	412.1
Entertainment	158.4	161.1	1.7	4.1	234.6
Other Goods and Services	142.4	146.1	2.6	9.0	262.8

A 0.0 in the last column indicates that 1969 base index is not available.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University, in cooperative cosponsorship with Valley National Bank.

United States and Comparison Cities

Group	United States		Chicago		Los Angeles	
	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago	Percentage Change From Last Quarter	Percentage Change From One Year Ago
ALL ITEMS	-0.1	3.5	-2.0	6.8	-0.6	0.4
Food	0.9	2.0	1.0	2.2	0.9	4.0
Food at Home	0.7	0.8	0.9	0.3	0.6	1.8
Food Away from Home	1.2	4.7	1.3	6.0	1.6	8.1
Housing	-0.2	3.6	0.1	13.1	-0.5	-1.1
Shelter	-0.4	2.9	-1.4	15.2	-1.3	-2.5
Fuel and Utilities	0.7	8.2	5.7	12.6	3.2	7.6
Household Furnishings and Operations	0.7	2.8	1.9	3.6	1.5	1.3
Apparel and Upkeep	-1.7	2.1	-3.7	-1.4	-0.8	-3.7
Transportation	-2.0	0.7	-2.5	-1.4	-3.6	-2.0
Medical Care	2.7	11.1	3.9	11.9	2.1	10.5
Entertainment	1.3	5.2	1.0	1.3	3.0	3.2
Other Goods and Services	2.9	12.5	2.1	10.5	2.9	12.3

Source: Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.

Arizona Business Scene

Inflation Rates Nationwide: How They Vary

In 1979, the rate of inflation in Phoenix was 14.5 percent, while New York City's inflation rate was only 8.7 percent. The national average was 11.3 percent, exemplifying the often dramatic difference between the inflation rates of individual cities or areas and the most commonly used measure of inflation: the national average of the Consumer Price Index (CPI). The national average CPI, compiled by the U.S. Bureau of Labor Statistics, is calculated from the inflation rates of diverse large and small population centers nationwide. However, the relationship of inflation rates between the population centers isn't necessarily stable over time: in 1982, Phoenix had a *lower* inflation rate than New York City (5.3 percent vs. 5.8 percent).

Several patterns exist in these inflation rate variations. One pattern is regional: at any given time, cities in one area of the country, such as the West Coast, may have higher rates of inflation than cities in other regions of the country, such as the Northeast. Inflation has demonstrated a strong regional pattern since 1966, the first year of higher national inflation rates (from 1959 through 1965, the average national inflation rate was less than 2 percent each year). From 1967 through 1972, the highest inflation rates were along the East Coast, particularly in the Northeast, while the West Coast had the lowest inflation rates.

In both 1973 and 1974, the national inflation rate rose sharply, as 1973 marked the beginning of the current period of high inflation. From 1973 through 1978, the regional pattern of inflation was virtually the reverse of the 1967-72 period: the highest inflation rates were along the West Coast and in Texas, while the lowest inflation rates were along the East Coast. Nationally, the rate of inflation in the six years from 1973 to 1978 was 93 percent higher than in the previous six-year period. On the West Coast, however, the rate of inflation from 1973 to 1978 was 140 percent higher than from 1967 to 1972.

In 1979, an extended period of double-digit inflation began, running through 1981. In this three-year period, the regional pattern of 1973-78 continued, with one exception. The inflation rate in the Great Lakes-Mideast region accelerated beyond the national average after 12 years of being close to it. The rate of inflation nationally in the *three* years from 1979 to 1981 was 34 percent higher than in the *six* years from 1967 to 1972; the comparable figure for the West Coast was 76 percent higher.

In addition to this regional pattern of inflation, the population size and rate of growth of a metropolitan area also correlate with its inflation rate. Midsize metropolitan areas that are growing rapidly, such as Phoenix or Dallas, tend to have higher inflation rates than either large metropolitan areas with a relatively stable population, such as Los Angeles or Chicago, or smaller population centers. Although the inflation rate in metropolitan Phoenix from 1977 through 1980 was each year one of the highest in the country, it was comparable to that of similarly sized, growing areas in the Southwest, such as metropolitan San Diego, Denver,

Dallas and Houston. The inflation rates for these cities are shown in Table 1 for two periods: (1) from 1973 through 1978, when 1973 marked the first year of sharply higher inflation, following a recession-caused period of lower inflation; and (2) from 1979 through 1981, when 1979 marked the first year of sharply higher double-digit inflation.

TABLE 1

SELECTED INFLATION RATES

	1973-1978	*1979-1981*
Phoenix	54%	46%
San Diego	60	52
Denver	64	44
Dallas	56	47
Houston	71	37
U.S. Average	56	39

Sources: United States Department of Labor, Bureau of Labor Statistics, *CPI Detailed Report*, various issues, and Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

TABLE 2

RANKING OF METROPOLITAN PHOENIX'S INFLATION RATE

	1973-1978	*1979-1981*
All Items	17	4
Food	20	3
Food at Home	9	2
Housing	14	4
Homeownership	17	2
Fuel and Other Utilities	12	28
Apparel and Upkeep	1	20
Transportation	16	27
Medical Care	24	5
Entertainment	21	2
Other Goods and Services	N/A	29
Total Number of Cities	24	29

N/A = Not Available

Sources: United States Department of Labor, Bureau of Labor Statistics, *CPI Detailed Report*, various issues, and Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

The CPI is composed of seven major categories that, in turn, divide into many subcategories. The difference between two cities' inflation rates in a CPI subcategory may be greater than the difference in the cities' overall inflation rates. For example, in 1981, San Francisco's homeownership costs increased 22.2 percent while those in Cincinnati increased only 1.7 percent. The overall rate of inflation was 13.0 percent in San Francisco and 7.2 percent in Cincinnati (the national average was 12.3 percent).

In any given city, the pattern of inflation between the various CPI categories can be considerably different. The 1981 cost of food, for example, increased more rapidly in Phoenix than in all but one of 29 metropolitan areas, but the inflation in Phoenix's Fuel and Utilities was the lowest of 29 cities (Phoenix ranked 13th of the 29 cities in overall inflation rate). Table 2 shows how metropolitan Phoenix ranked among the nation's major metropolitan areas for inflation in various categories of the CPI. In comparison to San Diego, Denver, Houston and Dallas, Phoenix's inflation during 1979-81 was the most rapid in the categories of Food at Home, Homeownership, Medical Care, and Entertainment but the least rapid in the categories of Fuel and Utilities, Transportation, and Other Goods and Services.

The Homeownership category of the CPI has received the most attention in recent years due to extremely high rates of inflation and criticism concerning the methodology used to calculate homeownership cost increases (the methodology was revised nationally in January 1983). Homeownership cost increases have also followed a regional pattern. From 1967 through 1972, they increased most rapidly in Texas, followed by the Northeast. From 1973 through 1978, the West Coast had by far the highest rates of increase, followed by cities in Texas. From 1979 through 1981, the situation again changed as Texas and the remainder of the Southwest experienced the most rapid homeownership cost increases, followed by the Great Lakes region. Considerable variation by city occurred within these regions, however.

During the entire 15-year period, homeownership costs increased most in the Southwest, followed by the West Coast, with both regions considerably higher than the national average. The only region with significantly lower rates of increase was the Northeast. The city with the most rapid increase was San Diego, with a 440 percent jump in homeownership costs between 1967 and 1981. Other cities with rapid increases included Denver (380 percent), Houston (350 percent), and Dallas (345 percent). By contrast, homeownership costs rose only 149 percent in Honolulu, 178 percent in Buffalo, and 196 percent in New York City. Information for Phoenix was not available for the entire 15 years; the increase during the last 12 years was 235 percent.

During the most recent year, 1982, the pattern of

inflation again changed as the inflation rate nationwide dropped sharply. In metropolitan Phoenix, the average annual inflation rate for 1982 was only 5.3 percent, with the rate of change only 1.0 percent in the one-year period ending December 31, 1982. An analysis of 1982-83 inflation will be the subject of a future *Arizona Business Scene.*

ARIZONA SALES OF ELECTRICAL POWER
(In Thousands of Kilowatt Hours)

			Percent Change From Prior Year	*Percent Change From Prior Month*
	1982	*1981*		
November	2140.7	2274.7	-5.9%	-2.4%
December	2399.0	2393.5	+0.2	+12.1
	1983	*1982*		
January	2193.2	2522.4	-13.1	-8.6
February	2085.2	2095.5	-0.5	-4.9
March	2202.6	2337.0	-5.8	+5.6
April	2150.0	2298.8	-6.5	-2.4
May	2345.0	2517.9	-6.9	+9.0

Source: Arizona Power Authority (based on reports from major suppliers).

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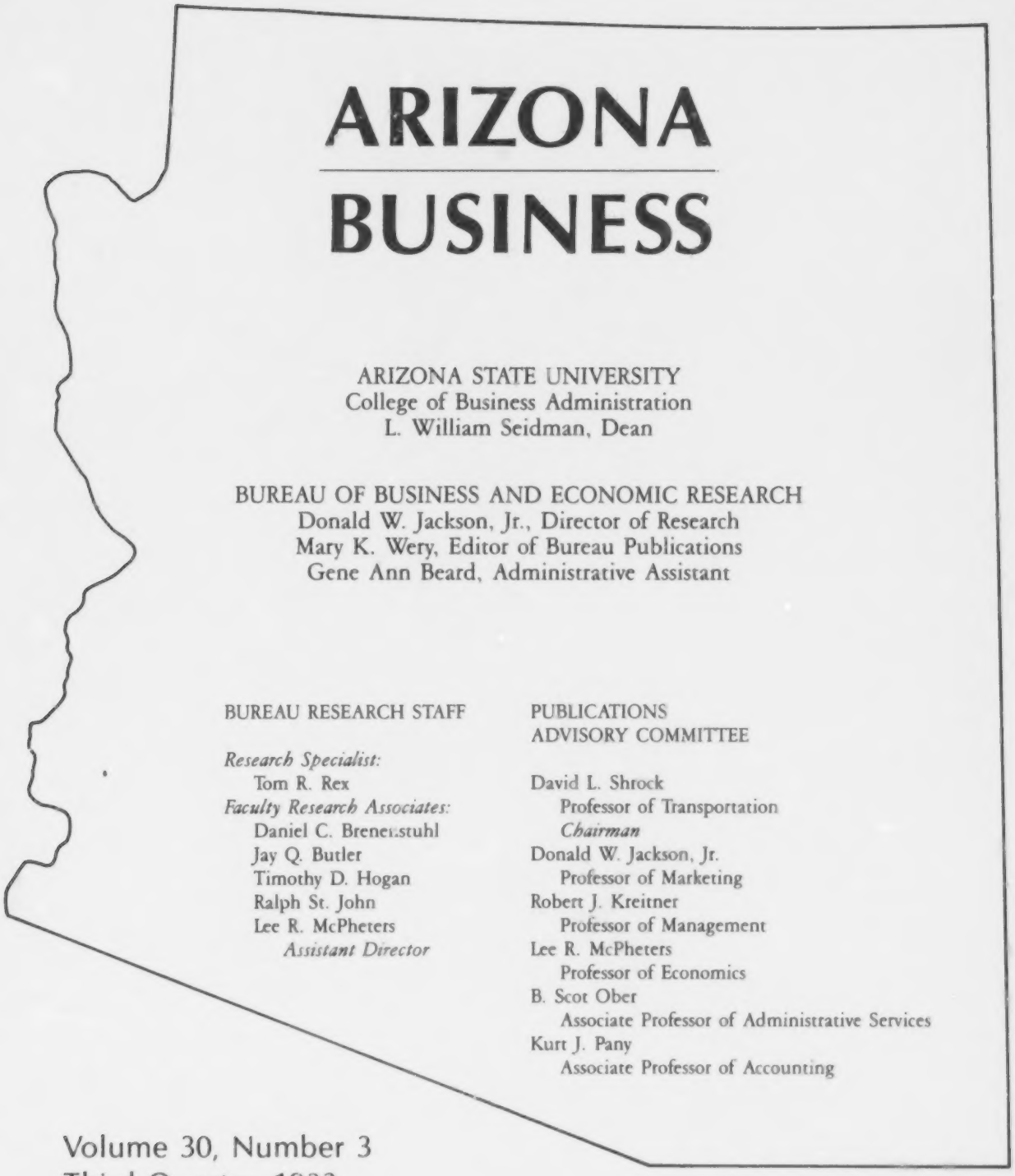

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Report to the Reader

Seldom does one refer to pages of statistical tables as "stimulating reading" or to the scanning of data as "an uplifting experience." However, the reports in this issue of *Arizona Business* are sure to inject the reader with ahealthy dose of economic optimism.

For example, in his "Survey of Arizona Business Conditions" for March through August, 1983, Harold Fearon uses phrases such as "strongly-positive" (economic indicators), "highest growth rates" (new orders, production, employment), "more new business," and "rapid output gain." Words like "vigorous," "robust," and "momentum" are sprinkled throughout his report.

Not to be outdone, Jay Q. Butler describes "Arizona Construction Activity" during second quarter, 1983, as being at its "highest quarterly level of the 1980s." He, too, seems fond of words such as "resurgence" (in single-family home construction and consumer buying), "increased" (total recorded building permits) and "improved" (new home sales and resale home activity).

With the upsurge in purchasing, construction, and home sales came a larger increase in prices in the Phoenix metropolitan area (1.7 percent) than had occurred during first quarter, 1983 (0.2 percent). However, during the past year, the Phoenix Consumer Price Index increased only 0.9 percent. More good news!

The final positive note is sounded in the *Arizona Business Scene* column, which predicts that after the economy recovers from the recent recession, personal income in Arizona is likely to resume its rapid growth, fueled by large population increases.

The only words in this issue's reports that have a negative connotation are "interest rates," as both Butler and Fearon allude to a potentially negative impact if they continue to rise. For now, however, the economy is experiencing a positive upsurge, and we encourage the reader to enjoy the "stimulating reading" in this issue of *Arizona Business*.

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The Impact of Undocumented Aliens on Health and Public Health Care in Arizona

JOSÉ A. MÉNDEZ
CECILIA D. ESQUER

Historically, Arizona and Mexico have shared a special relationship, shaped in large part by what has been characterized as a fluid border: their respective populations have ebbed and flowed freely between the two countries.[1] Although this flow has never been completely free from controversy, the illegal immigration of Mexican nationals, as well as of nationals from other developing nations, is currently the source of growing public concern. At issue is the fact that these undocumented[2] immigrants bring with them diseases that are endemic to low income populations — diseases that are, moreover, highly infectious and communicable. Furthermore, the vast majority of these individuals enter the United States as indigents. Thus, their presence is viewed as not only presenting a health threat to U.S. communities, but also as creating a financial burden for taxpayers and public health care providers.

This article will consider the implications of these concerns for Arizona and provide insight into the extent of the health care burden, both social and economic, that undocumented aliens present to Arizonans. The first section considers the non-economic dimension of the problem — the "social burden", i.e., the effect on society's general level of well-being. For example, if the presence of undocumented aliens leads to illness, society's welfare has been reduced. The members of society are in some sense worse off, although not necessarily in measurable economic terms. The extent of this social burden is directly related to the health threat posed by undocumented aliens: A large threat of disease is potentially a large social burden, and a small likelihood of disease implies a small potential burden.

The next two sections of the article consider the economic burden of providing free medical care to undocumented aliens in Arizona. An estimate of the direct cost is compared to an estimate of the taxes paid by undocumented aliens employed in Arizona. Finally, the article describes Arizona's new indigent health care program in light of the suggested concerns.

During fiscal 1981, 83,643 aliens were apprehended in Arizona. Many of these undocumented immigrants bring with them diseases that are endemic to low income populations. This article explores the potential health threat and economic burden to Arizona residents and taxpayers.

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PUBLIC HEALTH THREAT

In assessing the public health threat presented by undocumented aliens, one must consider that they come from countries where the incidence of infectious and communicable diseases is significantly higher. Nonetheless, while contact with undocumented aliens may result in individual instances of illness, the possibility of widespread transmission or epidemic is low. Most Arizona residents possess those factors that, historically, have

lowered the incidence of these diseases, such as sanitary waste disposal systems, safe water supplies, and high standards of personal hygiene and nutrition. Moreover, Arizonans have access to the vaccines used against many diseases endemic to developing nations. Residents also benefit from effective detection and containment methods developed by public health departments. Thus, the presence of undocumented aliens presents a minimal health threat to Arizonans.

However, the risk of disease can be a source of concern for Arizonans if one subgroup of the state's population must bear it disproportionately. The subgroup that has the greatest interaction with undocumented aliens — low-income residents — will bear the heaviest risk burden. These groups interact in every aspect of their lives. In the labor market, they vie for the same type of employment since they principally offer employers physical labor. In the housing market, they seek the same neighborhoods since low incomes limit their options. And, in the case of low-income Hispanics, they intermingle socially since they have cultural and linguistic ties.

To what extent the health care problems of indigent Arizonans are exacerbated by the presence of undocumented aliens is difficult to assess since the diseases endemic to this population — like the diseases endemic to undocumented aliens — reflect their low income levels. This analysis suggests that health care for undocumented aliens is primarily an *economic* burden on Arizona. That is, the "social cost" to state residents is small, indicating that society's general level of well-being is not threatened.

COST OF PROVIDING FREE HEALTH CARE

In assessing the economic burden shouldered by Arizona for the health care of undocumented aliens, the focus is on the direct cost of providing free medical services. The value of those services for which they pay is excluded from the estimate. These purchases cost society nothing; their impact is no different that when an Arizona resident decides to purchase a greater level of health care.[3] However, undocumented aliens who receive health care without paying for it impose an economic burden that falls initially on public health care providers and ultimately on local taxpayers. The next section of this article considers the extent of the economic burden on taxpayers or society; this section considers the burden on publicly-supported health care providers, i.e., county hospitals, public clinics, etc.

The following key assumptions and data sources were used. First, an estimate of the total number of undocumented aliens residing in Arizona during 1976 was obtained from information provided by the U.S. Department of Justice Immigration and Naturalization Service (INS).[4] Second, under the assumption that, irrespective of location, undocumented aliens are impelled to seek free medical care for the same reasons (low incomes, similar health needs, etc.), this analysis draws upon a study of the health care utilization patterns of undocumented aliens in Orange County, California. That study provides data on the percentage of undocumented aliens in a study sample who obtained free medical care.[5] The study sample was composed primarily of Mexican aliens, a group that in fiscal year 1981 accounted for 97 percent of the 83,643 aliens apprehended in Arizona by the INS.[6]

Third, Dr. Morton Nelson, Orange County health officer, stated in a *Los Angeles Times* article that "the disease rate among illegals was about the same as the rate among U.S. citizens of similar income and education."[7] Thus, under the assumption that undocumented indigents in Arizona have the same actuarial risks as indigent citizens, this study used cost information provided by the Arizona Health, Welfare and Aging Committee on the yearly per-person health cost of indigent care.[8] The resulting calculations indicate that in 1981, 4,860 undocumented aliens received free health care in Arizona at a cost of $5,126,400.[9] This figure represents 3.4 percent of Arizona's fiscal 1980-81 indigent health care expenditures.[10] In other words, if the level of funding for Arizona's indigent health care is not increased to account for health care use by undocumented aliens, the $1,046.50 in health care services provided to each indigent is, in effect, reduced by $36.[11]

Although state and county governments have been uncertain about the magnitude of this cost, they have felt that it was sizable enough to seek legislative relief in Congress — especially since they consider the cost of caring for indigent aliens a burden imposed on them by the federal government. Because immigration policy is determined nationally, they feel that it is inequitable for border states and their local communities to shoulder the financial burden of caring for undocumented aliens. Yet humanitarian concerns, as well as uncertainty about their legal obligation to provide for the health care needs of undocumented aliens, make local health care providers reluctant to refuse them treatment. Moreover, they point out that federal agencies refuse to accept responsibility. For instance, the INS only accepts responsibility for the health care of undocumented aliens who become ill while in their custody. Even if the INS knows that an undocumented alien is receiving care in a local hospital, it will refuse to accept custody until that alien is well enough to be released. The INS and other federal agen-

cies argue that Congress has given them neither the responsibility nor the funding to provide compensation for the health care costs of undocumented aliens.

As of this date, the question of fiscal responsibility has not been settled, although the June 15, 1982, Supreme Court ruling on the issue of tuition charges for undocumented children may have implications. In the case of *Plyler v. Doe,*[12] the Supreme Court ruled that public school districts could not charge tuition for undocumented school-age children who reside within the school district boundaries if they provide a free public education to citizens or legally admitted aliens.

Although Arizona courts have not ruled on whether state residency is conditional on lawful entry, the U.S. Supreme Court, in *Plyler v. Doe,* held that the Fourteenth Amendment to the Constitution applies to undocumented aliens despite their illegal entry. It stated that they "are entitled to the equal protection of the laws that a State may choose to establish." Since the Arizona statute does not specifically exclude undocumented aliens, a decision to deny treatment to an undocumented indigent person could be challenged. Nevertheless, the stricter eligibility requirements will make it more difficult for undocumented aliens to obtain health care. Until the question of whether undocumented aliens have a constitutional right to free health care is settled, the immediate concern for local and state governments is the size of the economic burden that such aliens present. That is, after taking into account the tax contributions made by undocumented aliens, are they a financial drain on state and local governments, or do the aliens potentially compensate the government for the health care they receive?

COST OF FREE HEALTH CARE RELATIVE TO TAXES PAID BY UNDOCUMENTED ALIENS

The empirical literature on undocumented aliens consistently reports that they pay federal income and social security taxes; yet, apart from medical care, they infrequently use other social services (see Table 1). By paying for social services and not using them, undocumented aliens indirectly pay for the health services they receive. Their tax contributions make it possible to provide legal residents with a higher level of social services without requiring a greater level of funding. Thus, tax revenues may be used for other purposes, one of which is to fund health care for undocumented aliens. Society's economic burden — the net cost of caring for indigent undocumented aliens — may then be determined by comparing the total cost of free medical care to the taxes paid for social services not used.

As with the estimate of health costs, this analysis utilizes an estimate of the taxes paid by undocumented aliens based on the following key assumptions and data. First, although a number of studies provided data on hourly wage rates, number of hours worked, length (in years) of employment, and sector of employment, crude calculations from each study yielded consistent results. Therefore, the Orange County study was used, and it yielded an average annual income figure for undocumented aliens of $4,368 in 1977.[13] Second, only taxes withheld for social security were calculated. State and local taxes and federal income taxes were excluded because undocumented aliens, like legal residents, benefit from the government services funded by these taxes, i.e., highways, police protection, local fire protection, national defense, etc. Third, the estimate of the number of undocumented aliens who work in Arizona (provided by the U.S. Department of Justice) was adjusted by the percentage who pay Social Security taxes in order to derive

TABLE 1[1]

ESTIMATED PERCENTAGE OF UNDOCUMENTED ALIENS WHO USE SOCIAL SERVICES

	North and Houstoun Study (Apprehended Aliens)	*Orange County Study (Mainly from Mexico)*
Welfare	0.5%	2.8%
Food Stamps	1.3	1.6
Unemployment Compensation	3.9	—
Public Schools	3.7	—
Medical Support[2]	27.4	8.0 — 10.0

ESTIMATED PERCENTAGE OF UNDOCUMENTED ALIENS WHO PAY FEDERAL TAXES

Tax	*North and Houstoun Study*	*Cornelius Study*	*Orange County Study*
Federal Income Tax	73%	64%	70%
Social Security Tax	77	65	88

[1]Tables adopted from Report to the Congress of the United States by the Comptroller General, "Illegal Aliens: Estimating Their Impact on the United States," March 14, 1980, pp. 24-25.

[2]In the North and Houstoun study, 83 percent of the 27.4 percent who said they had used medical services had hospitalization insurance, for which they or their employers had paid. In the Orange County Study, the figure of 8 to 10 percent represents free medical care.

the total number of undocumented aliens who pay taxes. Based on these assumptions and data, calculations indicate that undocumented aliens support social services by contributing $12,619,326 annually in taxes. In other words, for every dollar of free medical care received, undocumented aliens paid $2.46 for services they did not receive.[14]

In short, the findings of this study indicate that Arizona bears no social and economic burden in providing health care for undocumented aliens. They pose no threat of disease outbreak, and they can potentially pay for the services they receive. However, undocumented aliens create a distributional problem; state and county governments argue that without compensation from the federal government, they must bear the financial burden of providing free medical care. Yet, in the near future, even this distributional problem may no longer be a concern. In 1981, Arizona legislators passed a bill that restructures the state's indigent health care system and qualifies the State to receive federal funds to help subsidize indigent health care costs.[15]

ARIZONA'S NEW INDIGENT HEALTH CARE SYSTEM AND UNDOCUMENTED ALIENS

Arizona's new indigent health care legislation — the Arizona Health Care Cost Containment System (AHCCCS) — unifies 14 county programs under an experimental system designed, as its title suggests, to contain costs. Private and public health care suppliers, i.e., county hospitals, health maintenance organizations, clinics, individual doctors, etc., bid for the right to provide health care services on a pre-paid, per capita basis. That is, health care providers receive a fixed amount of funds to provide for the health care needs of a given population of indigents. The amount is calculated by projecting the population that is to be served and the per capita health care costs of indigents, based on actuarial rates. The law also calls for the selection of a system administrator who is responsible for ensuring that costs are contained and that the quality and quantity of health care contracted for is provided. Like health maintenance organizations (HMOs) in the private sector, public and private health care providers under the new system have incentives to provide health care services efficiently since they face an upper limit on their funding. Yet the quality of care should not suffer since it is a consideration in the awarding of contracts. Moreover, like HMOs, preventive care is emphasized.

With respect to the presence of undocumented aliens and the issues raised in previous sections of this article, implementation of the new system has the following implications: First, to the extent that actuarial rates serve as a basis for health care cost estimates, the impact of undocumented aliens will be reflected in rate changes over time. If the presence of undocumented aliens exacerbates the health care problems of Arizona's indigents, the change will again be reflected in the actuarial rates and, subsequently, in the funds allocated for the care of indigents. Second, because the quantity of funds allocated to health care providers is fixed, an adequate level of care per person can be provided only so long as the actual population treated is close in number to the projected eligible population (since funds are allocated on the basis of the latter). Thus, the law has established an eligibility requirement much stricter than that of many current county programs; except under emergency conditions, individuals seeking medical care must first establish legal eligibility. In addition to income and resource limitations, they are required to show proof of full-time state residence. Therefore, if effectively implemented, this law could serve to reduce the financial loss suffered by health care providers. Third, the federal government has indicated that it will provide partial funding for the new system. Even if this funding is not specifically intended to compensate Arizona for undocumented aliens' use of free medical care, it does assist Arizona taxpayers in caring for them, as well as for indigent citizens. In short, if this program performs effectively on a long-term basis, the concerns raised earlier in this article will no longer be an issue. Nevertheless, society is left with a more fundamental concern of moral responsibility.

CONCLUSION

The phenomenon of illegal immigration affects Arizona in three ways. First, while undocumented aliens present no threat of epidemic or disease outbreak, they have the potential to exacerbate the health problems of our indigent population. Second, by their use of free medical care, indigent undocumented aliens impose a financial burden on local public health care providers. The cost of providing free medical care — borne initially by local health care providers and ultimately by state and county governments — was $5,126,400 in 1981. Third, by contributing an estimated $12,619,326 annually in federal taxes for services not received, undocumented aliens indirectly pay for the health care they receive. Thus, undocumented aliens are a burden to Arizona's indigent population if the commitment to provide for their health

care needs is not maintained, and they would become a greater burden to Arizona taxpayers if federal aid to the AHCCCS program is discontinued.

Arizona's new indigent health care program — with its stringent eligibility requirement and partial federal funding — will, if effectively implemented, deal with the issues raised above. If so, public policy with respect to undocumented aliens' use of free health care will be determined by public debate over the one remaining issue: Does society have a moral responsibility to use its resources to provide for the health care needs of undocumented aliens? The public debate has begun.

---

[1]W. Gordon, "A Case for a Less Restrictive Border Policy," *Social Science Quarterly* (December 1975): 486.

[2]An "undocumented" alien is a person who has either entered the United States illegally or who entered legally but overstayed the terms of his/her visa.

[3]The assumption implicit in this statement is that undocumented aliens do not create pecuniary distributional effects as a result of their health care purchases.

[4]U.S. Department of Justice, Immigration and Naturalization Service, *Estimated Total Number of Illegal Aliens and Employed Illegal Aliens by INS Regions.* Special and Irregular Publication, November 22, 1976.

[5]This study, entitled *The Economic Impact of Undocumented Immigrants on Public Health Services in Orange County*, March 1978, is cited in Report to the Congress of the United States by the Comptroller General, "Illegal Aliens: Estimating Their Impact on the United States," March 14, 1980. See Table 1.

[6]U.S. Department of Justice, INS, Western Region, San Pedro, California, "Statistics — Deportable Aliens Located," December 29, 1981.

[7]E. Maxwell, "Disease Control Dilemma," *Los Angeles Times* (July 23, 1979), part (section) I: 18.

[8]The cost information provided by the Arizona Health, Welfare, and Aging Committee indicated that the yearly per-person health cost of indigent care in urban areas (Maricopa and Pima Counties) is $1,059.56 and in rural areas $991.92. Because research has shown that undocumented aliens prefer to locate among individuals who are culturally similar, we assumed that, like Mexican-Americans in Arizona, 81 percent live in urban areas.

[9]That this estimate is indicative of what we can expect the actual cost to be is supported by the findings of a survey conducted by the Arizona Hospital Association in 1976. That survey estimated that $1,706,940 of uncollectable cost was due to medical care rendered to 4,200 indigent Mexican nationals. In comparing that figure with our calculation, note that hospitals in the survey emphasized that their figures were underestimates and that since that time, health care costs have risen more than 70 percent in Arizona. The survey was conducted by Chic Older, Director of Government Affairs, Arizona Hospital Association.

[10]Arizona Health, Welfare, and Aging Committee, *Arizona Indigent Health Care Program Cost Information:* 10.

[11]The eligible indigent population calculated as 142,734 from a report by the Arizona Association of Counties, fiscal 1980-81 breakout of indigent health care population.

The $36 reduction in health care provided to indigent citizens does not take into account the costs imposed on them because of increased waiting time and crowding.

[12]*Plyler v. Doe*, 102 Supreme Court Reporter 2382, 2407 (1982).

[13]Report to the Congress of the United States by the Comptroller General; "Illegal Aliens: Estimating Their Impact on the United States," March 14, 1980: 24. Assuming that real wages have remained constant, this figure was placed in current 1981 dollars by using the consumer price index.

[14]In interpreting our estimates, note that they indicate only general magnitudes of the quantities involved. They are specific in the sense that, based on the body of research currently available on undocumented aliens, they indicate what we could plausibly expect. This is much the same principle that underlies the use of samples and surveys to draw inferences about the underlying population. While cost is a prime consideration in using surveys, it is an even greater consideration when drawing inferences about an "invisible" population about whom surveys are nearly impossible to conduct. Thus, to study this problem, we used existing empirical studies under the assumption that their findings capture the behavior of a homogeneous population facing similar institutional constraints.

[15]Arizona Revised Statutes, Title 11, Section 291 *et seq.*

Human Resource Management and the Law

GEORGE E. STEVENS

Today's human resource or personnel manager must contend with a tangle of major laws, executive orders, federal guidelines, state statutes and court cases that regulate the personnel function. In particular, local, state, and federal laws have contributed heavily in recent years to the expansion of human resource management activities. President Reagan attempted to curtail the flood of government regulations by issuing Executive Order 12291, which became effective February 17, 1981. It requires that no regulatory action be undertaken unless the potential benefits to society outweigh the potential costs.[1]

Because the directive did not affect existing regulations, organizations need to be aware of the legal requirements that continue to govern recruitment, selection, training, performance appraisal, compensation, discipline, etc. Employers must also identify areas of the employment relationship that have the greatest potential for liability. These areas include equal employment, confidentiality, harassment, and procedures for resolving complaints.

The trend of the last 50 years to mold human resource management through legislation and litigation will probably continue for the remainder of the 1980s. Personnel professionals must not only be knowledgeable about myriad legal regulations but must also identify areas of the employment relationship that have the greatest potential for liability. This article examines the current complex legal environment in the context of historical developments and future implications for human resource management.

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Many personnel departments spend thousands of hours and hire additional staff in order to comply with the laws' record keeping and reporting requirements. In addition, new laws and regulations create a need for people who can interpret them and develop compliance programs. The failure to comply can be extremely costly in the form of back pay awards, front pay awards, wage adjustments, class action suits, payment of legal fees, damages, and other financial penalties.

The purpose of this article is to provide a historical perspective and current overview of the legal environment in which human resource managers must make decisions. Implications for the future of personnel management are also discussed.

HISTORICAL PERSPECTIVE

The number of laws that govern human resource management has increased dramatically during the past 50 years. Federal law primarily regulates decision-making on equal employment opportunity, union-management relations, employee safety and health, and employee pensions and other benefits. This regulatory activity is extremely costly. According to some estimates, federal government regulation expenditures rose from $745 million in 1970 to $4 billion in 1979.[2] Murray L. Weidenbaum, a professor of public administration and government consultant, believes the private sector spends 20 times the government expenditure to comply with the regulations.[3]

The magnitude of the regulatory activity is illustrated by this quote from a recent *Arizona Business* article: "To ensure compliance, each federal agency hires inspectors, auditors, investigators, compliance officers and enforcement officials — all experts in their field. In addi-

tion, they have at their command more than 67,500 government attorneys . . ." [4] With this kind of federal enforcement, personnel decisions should not be made by managers who rely only on common sense, who are out-of-date, or who have no knowledge of the law.

Significant Laws

Many business groups have called for substantial deregulation in light of the increasing cost of compliance and a feeling that American industry is overregulated. A list of several major laws that have affected human resource management during the past 60 years reflects the increasingly technical, complex, and dynamic nature of the legal environment influencing business.[5]

During the 1930s, several significant laws were passed, particularly in the areas of collective bargaining and worker financial security. Major acts included the Davis-Bacon Act (1931), Walsh-Healey Act (1935), Social Security Act (1935), National Labor Relations Act (1935), and the Fair Labor Standards Act (1938).

Although the next two decades were relatively subdued in terms of new legislation, two important laws were passed during the 1940s: the Wage Stabilization Act (1942) and the Labor Management Relations Act (1947), better known as the Taft-Hartley Act. Two laws enacted during the 1950s are also noteworthy. The Defense Priorities Act (1950) attempted to keep wages down during the Korean conflict. And, in 1958, financial disclosure of certain benefit plans became a requirement under the Welfare and Pension Plan Disclosure Act.

The 1960s ushered in a notable trend of government intervention in the personnel function, particularly through laws related to fair employment, such as the Equal Pay Act (1963); Title VI of the Civil Rights Act, which prohibits discrimination by employers who receive federal financial assistance; Title VII of the Civil Rights Act (1964); the Revenue Act (1964); the Medicare Act (1966); Age Discrimination in Employment Act (1967), and the Tax Reform Act (1969). Limited job safety and health legislation were also approved. In 1965, Congress amended the Walsh-Healey Act to include health and safety coverage for providers of government services. Known as the McNamara-O'Hara Public Service Contract Act, it was followed a year later by the Federal Coal Mine Health and Safety Act.

During the 1970s, regulations proliferated at an unprecedented pace and included the Federal Pay Comparability Act (1970), Occupational Safety and Health Act (1970), Health Maintenance Act (1973), Equal Employment Opportunity Act (1972), Employee Retirement Income Security Act (1974), Vietnam Era Veterans Readjustment Act (1974), and the Rehabilitation Act (1973). Table 1 relates the jurisdiction and basic provisions of many of these laws.

Although the basic focus of fair employment legislation is on women and minorities, so-called "reverse discrimination" receives much attention as well. Cauca-

TABLE 1

SELECTED LAWS AFFECTING PERSONNEL AND HUMAN RESOURCE MANAGEMENT

Act	*Jurisdiction*	*Basic Provisions*
Railway Labor Act (1926)	Railroad workers and airline employees	Assures railroad workers the right to organize and join unions without employer interference.
Davis-Bacon Act (1931)	Employers with government construction projects of $2,000 or more	Guarantees prevailing wages to employees of government contractors.
Norris-LaGuardia Act (1932)	All employers and labor organizations	Limits restrictions on strikes, picketing, and boycotts. Forbids use of "yellow-dog" contracts, which required workers, as a condition of employment, to agree to abstain from union membership. Limits liability of unions and their officers and members for unlawful acts of individual officers, agents, or members.
Walsh-Healey Act (1935)	Employers with government contracts of $10,000 or more	Guarantees prevailing wages to employees of government contractors.
Social Security Act: Old Age Survivor's Disability and Health Insurance (OASDHI) (1935 and amendments)	Virtually all employers	Provides income and health care to retired employees and income to the survivors of employees who are disabled or die.

(Continued on page 10)

(Continued from page 9)

TABLE 1

SELECTED LAWS AFFECTING PERSONNEL AND HUMAN RESOURCE MANAGEMENT

Act	*Jurisdiction*	*Basic Provisions*
Unemployment Compensation Act (1935)	Virtually all employers	Provides income to employees who are laid off or fired.
National Labor Relations Act (Wagner Act) (1935)	Non-managerial employees in private industry not covered by Railway Labor Act (RLA)	Guarantees right to self-organization, collective bargaining, and concerted union activities. Creates National Labor Relations Board. Several states pass little Wagner Acts.
Fair Labor Standards Act (FLSA) (1938 and amendments)	Most employers (executive, administrative, and professional employees and outside salespeople are exempt from overtime provisions)	Establishes a minimum wage; controls hours through premium pay for overtime; controls working hours for children.
Wage Stabilization Act (1942)	Virtually all employers	Authorizes the President to stabilize wages and salaries.
Labor-Management Relations Act (Taft-Hartley Act) (1947)	Non-managerial employees in private industry not covered by RLA	Provides rights to organize and to bargain collectively; requires employers to bargain; requires unions to represent all members equally.
Labor Management Reporting and Disclosure Act (Landrum-Griffin Act) (1959)	Labor organizations	Outlines procedures for redressing internal union problems.
Equal Pay Act (1963 amendment to FLSA)	Same as Fair Labor Standards Act, but no employees are exempt	Prohibits unequal pay for men and women with equal skills, effort, and responsibility and who work under similar conditions.
Civil Rights Act (1964)	Employers with 25 or more employees, employment agencies, and labor unions	Prevents discrimination on the basis of race, color, religion, sex, or national origin; establishes Equal Employment Opportunity Commission (EEOC).
Age Discrimination in Employment Act (1967) and amendments	Employers with 25 or more employees	Prevents discrimination against people 40 to 70 years old.
Architectural Barriers Act (1968)	Federally-financed public buildings	Requires buildings to be designed and constructed to be accessible to the physically handicapped.
Federal Pay Comparability Act (1970)	Federal Agencies	Requires that federal employees be paid on a level equivalent to employees in the private sector.
Economic Stabilization Act (1970)	Most employers	Gives wage and price controls to President Nixon.
Occupational Safety and Health Act (OSHA) (1970)	Most employers	"Assures as far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources."
Equal Employment Opportunity Act (EEOA) (1972)	Most employers, including state and local governments, educational institutions, and those that employ 15 or more people	Amends Title VII of the Civil Rights Act; increases enforcement powers of EEOC.
Rehabilitation Act (1973)	Government contractors and federal agencies	Prevents discrimination against people with physical and/or mental handicaps.
Vietnam Era Veterans Readjustment Act (1974)	Most employers	Protects Vietnam veterans from employment discrimination.
Employee Retirement Income Security Act (ERISA) (1974)	Most employers with pension plans (no employer is required to have such a plan)	Protects employees covered by a pension plan from losses in benefits due to mismanagement, plant closings, bankruptcies, and job changes.
Privacy Act (1974)	Federal employees	"Provides certain safeguards for an individual against an invasion of personal privacy."
Civil Service Reform Act, Title VII (1978)	Federal employees	Defines grievance procedures.
Pregnancy Discrimination Act (1978)	Female employees	Defines pregnancy as a disability; requires that pregnancy receive the same benefits as any other disability.
Tax Equity and Fiscal Responsibility Act (1982)	Most employers	Affects pension plans and other employee benefit plans.

sians are protected under both Title VII of the 1964 Civil Rights Act and the 1866 Civil Rights Act.

Executive Orders

The President of the United States, as chief of the executive branch of the federal government, can and does issue presidential directives, known as executive orders. They have the force of laws enacted by Congress and generally relate to public sector activities. However, many executive orders affect private sector organizations that do business with the federal government. Table 2 lists the most significant executive orders.

In 1941, the executive branch imposed equal employment opportunity (EEO) stipulations on firms holding government contracts. However, probably the most significant presidential directive concerning EEO is Executive Order 11246, which established the Office of Federal Contract Compliance Programs to prevent discrimination. The directive applies to all firms with government contracts of more than $50,000 and 50 or more employees.

Federal Agency Guidelines

Federal agencies that develop employment guidelines include the Office of Personnel Management, Equal Employment Opportunity Commission (EEOC), Occupational Safety and Health Administration, and Office of Federal Contract Compliance Programs. One agency alone, the Equal Employment Opportunity Commission, has released guidelines that govern such diverse issues as sexual harassment; selection procedures; discrimination on the basis of religion, national origin, or gender; affirmative action; employment discrimination; and reproductive hazards. All of the guidelines were released during the relatively brief period between August 25, 1978, and December 29, 1980. Although they lack the force of law, the agency guidelines are treated with great deference by the courts.

Previous court decisions allow the judicial system to identify and clarify key legal issues as well as to develop a body of case law. Table 3 describes the basic provisions of the most important recent employment cases.

TITLE VII OF THE CIVIL RIGHTS ACT: SELECTING EMPLOYEES

Government pressure is especially strong in the area of employee selection, a broad domain that includes recruiting, hiring, testing, interviewing, training, and promotion. The major federal legal constraint on employer selection practices is Title VII of the 1964 Civil Rights Act, which prohibits employment discrimination

TABLE 2

SIGNIFICANT EXECUTIVE ORDERS

Act	*Jurisdiction*	*Basic Provisions*
Executive Order 10988 (1962)	Federal employees	Recognizes employees' rights to join unions and to bargain collectively; prohibits strikes; requires agency to meet and confer with unions on policy, practices, and working conditions.
Executive Order 11246 (1965), as amended by Executive Order 11375 (1966)	Federal contractors and subcontractors with contracts of more than $50,000 and who employ 50 or more people	Prevents discrimination on the basis of race, color, religion, sex, or national origin; establishes Office of Federal Contract Compliance.
Executive Order 11491 (1969)	Federal employees	Strengthens, coordinates, and clarifies EO 10988; establishes provisions for representation elections.
Executive Order 11478 (1969)	Federal agencies	Prevents discrimination on the basis of race, color, religion, sex, or national origin.
Executive Orders 11665, 11636, and 11838 (1975)	Federal employees	Expands EO 11491 to: cover labor-management relations and disputes over bargaining rights; order elections; consolidate units; limit scope of grievance and arbitration procedures.
Executive Order 12291	Federal agencies	Requires assessment of potential benefits and costs of proposed new government regulations. Benefits of new directives must outweigh their costs.

TABLE 3

RECENT PERSONNEL-RELATED COURT DECISIONS

Case	*Basic Provisions*
Griggs v. Duke Power (1971)	Prohibits tests for hiring unless job-related; requires organization to show evidence of job relatedness; relieves defendant of need to establish intent to discriminate.
Diaz v. Pan American World Airways, Inc. (1971)	Defines the primary function of an airline as transporting passengers safely from one point to another and makes the refusal to hire men as flight attendants discriminatory; establishes the principle of business necessity.
Spurlock v. United Airlines (1972)	Permits the use of a college degree as a selection criterion because it is job-related, even though no performance data are provided.
Richardson v. Hotel Corporation of America (1972)	Finds that dismissal on grounds of conviction record results in adverse impact but permits dismissal since conviction record is argued to be related to business necessity (not to job performance).
Brito v. Zia Company (1973)	Prohibits layoffs of a protected group because of low scores on performance measures that are not validated.
Hodgson v. Greyhound Lines, Inc. (1974)	Allows employers to discriminate on basis of age without empirical evidence but requires good-faith effort to show older people would make less-safe drivers.
Albemarle v. Moody (1975)	Requires organization to prove that tests are related to content of job but permits job analysis as evidence; aligns validation evidence with EEOC guidelines (1970).
Washington v. Davis (1976)	Requires that intent to discriminate be established when a test procedure is challenged under constitutional law; intent need not be established if test procedure is challenged under Title VII of Civil Rights Act (need only show effects).
Dothard v. Rawlinson (1977)	Specifies that height requirements are invalid and therefore constitute discriminatory practice.
Bakke v. Regents of the University of California (1978)	Prohibits reverse discrimination but allows race to be considered in selection decisions; permits affirmative action programs when prior discrimination has been established.
Weber v. Kaiser Aluminum (1979)	Allows employers to use a voluntary quota system on a temporary basis when it is part of a bona fide affirmative action plan designed to end numerical imbalance in the work force.
Marshall v. Barlow's, Inc. (1979)	Allows employers to bar entry to OSHA inspectors who do not have search warrants.
Marshall v. Whirlpool (1980)	Gives employees the right to refuse job assignments that constitute a clear and present danger to life or limb; relieves employer of responsibility to pay employees who are consequently sent home because of no work.
Connecticut v. Teal (1982)	Rejects the bottom-line defense used by employers to judge whether a selection process is discriminatory and requires evaluation of each component of the process.
American Tobacco v. Patterson (1982)	Allows seniority and promotion systems established since Title VII of the Civil Rights Act to stand, although they unintentionally hurt minority workers.

based on race, color, religion, national origin, or sex. The act's impact has been far greater than even its opponents envisaged.[6] As with any federal legislation, however, the U.S. Supreme Court determines its final impact. In the face of conflicting lower court rulings, the U.S. Supreme Court had many opportunities to rule on certain employment procedures and practices as applied in specific situations. The Court's first task was to develop a theory of discrimination. The term had to be defined.

THEORIES OF DISCRIMINATION

How does one define "discrimination" in employment practices? After all, the selection process is designed to *legally* discriminate among applicants or candidates. Usually, of course, job-related factors are used as the basis for selection.[7] Initially, the courts examined the intent or motives behind the employment practice in question. If the courts believed that the employer had an *evil in-*

tent not to hire a person because of his/her race, color, religion, sex or national origin, the employment practice was judged discriminatory and, therefore, in violation of the law.

During its initial years of implementation, Title VII of the Civil Rights Act produced few convictions. The reason: evil motive or evil intent were extremely difficult to prove.

The definition of discrimination quickly evolved. Courts examined employers' practices and policies to determine if the result was *disparate treatment*. Specifically, employers would not be found guilty of discrimination if all job applicants or all employees were treated equally with regard to relevant selection criteria. Several class-wide sex discrimination charges were filed as Title VII actions. Under this theory, the plaintiff must establish that an employer treats individuals differently simply because of their sex: *International Brotherhood of Teamsters v. United States*, 431 U.S. 324, 335 n. 15 (1977); *Heagney v. University of Washington*, 642 F. 2d 1157 (9th Cir. 1981). Under the disparate treatment theory, several employers were proven guilty of discrimination, but certain fundamental problems remained. Neither the evil intent nor the disparate treatment theories took into account the effects of past discrimination. Thus, their past unequal training or educational opportunities, lack of specific job experience, separate seniority units, etc., would lead to the disqualification of those minorities and women who sought certain jobs. Change was very slow, and Title VII continued to have little impact.

A third theory of discrimination developed, a theory that recognized the effects of past discrimination. Under the *adverse impact* theory, which remains in force today, the court can agree that no evil intent was evident and that similarly situated individuals were treated equally; yet, the court may still rule in favor of the plaintiff on the grounds that the consequence of the employment policies and practices was the disproportionate exclusion of protected class members. The landmark case in which this theory was first applied is *Griggs v. Duke Power Co.*, 401 U.S. 424 (1971). Also see *Dothard v. Rawlinson*, 433 U.S. 321 (1977). One court case, *Pouncy v. Prudential Insurance Co. of America*, 668 F. 2d 795 (5th Cir. 1982) is instructive because it provides a comprehensive analysis of the differences between the disparate treatment and adverse impact theories.

The EEOC presently defines illegal discrimination under Title VII as the "use of any test[8] that adversely affects hiring, promotion, transfer or any other employment or membership opportunity of classes unless the test has been validated and is job related, and/or an employer can demonstrate that alternative hiring, transfer, or promotion procedures are unavailable."

UNIFORM GUIDELINES

A significant event in the history of federal regulation of employment activities occurred in 1978: the adoption of Uniform Guidelines on Employee Selection Procedures.[9] The Uniform Guidelines are notable for several reasons. They superseded the EEOC's own 1970 Guidelines as well as the 1976 Federal Executive Agency Guidelines on testing and selection procedures, established by the Civil Service Commission, Departments of Justice and Labor.[10] More importantly, the Uniform Guidelines were adopted by four major government organizations: Equal Employment Opportunity Commission, the Office of Personnel Management, the Departments of Justice and Labor, and the Treasury Department's Office of Revenue Sharing. This joint adoption represented a significant attempt by these agencies to achieve consistency in interpreting the requirements of EEO laws.

The Uniform Guidelines were designed with two purposes in mind: (1) to assist employers, labor organizations, employment agencies, and licensing and certification boards in complying with federal EEO laws, and (2) to provide a framework for determining the proper use of tests and other selection procedures.[11] The Uniform Guidelines affect virtually all phases of personnel. In fact, employers can determine if their managers are adhering to federal laws simply by following the guidelines' instructions. Two major compliance strategies are identified in the guidelines: (1) No Adverse Impact Strategy and (2) Job Validation Strategy. Both strategies are discussed in the following section of this article.

Summary of Guidelines

The fundamental legal concepts set forth in the guidelines can be summarized as follows: An overall selection rate for any sex, ethnic or racial group that is less than 80 percent of the most successful group's selection rate (typically whites or males) will generally be deemed to constitute "prima facie," i.e., initial evidence of discrimination because the selection process has adverse impact on that group. The "80-percent rule" serves as a practical means of determining adverse impact for use in enforcement proceedings; it is not a legal definition of discrimination. According to the guidelines, each component procedure of the overall selection process should be examined for adverse impact. The components, however, need not generally be examined if the overall

process does not have adverse impact. If an examination of the individual selection components reveals the existence of adverse impact, the employer who wishes to forestall liability has four options:

1. Demonstrate that the component in question is job-related.
2. Modify the method of using the selection component or modify the procedure to eliminate the adverse impact.
3. Abandon the procedure and adopt one that does not have adverse impact.
4. Justify the component's accordance with federal law (e.g., show "business necessity").[12]

An employer may decide upon a validation[13] strategy that requires the demonstration of job relatedness of the selection component. Three steps are required:

1. Validation studies undertaken must conform to highly detailed requirements or validity evidence from other users.[14]
2. Detailed record keeping.
3. An investigation of alternative valid selection devices.

Problems with the Guidelines

Unfortunately, although the intent of the Uniform Guidelines of 1978 was to assist employers, its opponents contend that this objective was not achieved. In fact, a General Accounting Office (GAO) report cited problems relating to the guidelines' technical and policy provisions as well as with their overall clarity. GAO called for a review and revision of the regulations by all of the government's signatory agencies. The Ad Hoc Group on Uniform Selection Guidelines and Representatives of the American Society for Personnel Administration had previously found fault with the guidelines. Specifically, they believed, ". . . some of the provisions are ambiguous, some are too restrictive, and some are clearly legally or professionally incorrect."[15] Ledvinka identified a different, more specific problem — the selection guidelines impose complex, stringent requirements on selection procedures having adverse impact.[16]

If an examination of selection components reveals that one or more have an adverse impact but that the bottom-line result does not, is the employer liable to a discrimination charge? Although it is *generally* true that the bottom-line result is the key element, employers worried. Their worst fears were realized when the U.S. Supreme Court rendered its decision in *State of Connecticut v. Winnie Teal, et al.*, 50 U.S. L.W. 4716 (1982). The Court ruled that the absence of bottom-line adverse impact does not preclude an employee from establishing a prima facie case and does not provide an employer with a valid defense against a claim of employment discrimination in violation of Title VII of the Civil Rights Act. As a result of this ruling, additional expense must be incurred by conscientious employers who seek compliance, and the adverse impact studies may have to be dropped by those employers who will not (or cannot) handle the complexity and difficulties of complying with the Uniform Guidelines.

THE FUTURE

Having examined the legal environment of personnel and human resource management from a historical perspective, one might wonder what trends will dominate the remainder of the 1980s. Despite the mood of Congress and of President Reagan to slow the growth rate of regulation and to deregulate where possible, it appears certain that additional regulation and litigation will affect the personnel function.

Developments will probably occur in the area of equal contributions and benefits, regardless of an employee's gender. This thorny issue is a real concern in instances where women allegedly pay more for comparable health or life insurance premiums. Litigants claim that they are being penalized for their longer life expectancy. The U.S. Supreme Court, in the *Arizona Governing Committee for Tax Deferred Annuity and Deferred Compensation Plans v. Norris* (1983) case, ruled that pension plans offered by employers are illegal if women are paid a smaller benefit on the basis of sex-based actuarial tables. Within the same ruling, state and local government employee plans must provide equalized benefits to men and women in the future.

Another issue that will surely find its way back to the U.S. Supreme Court concerns employers' responsibility to provide benefits to the employees' spouses. One specific example is the situation in which the female spouse of an employee demands pregnancy and/or maternity benefits that would normally be provided to a female employee. In the *U.S. Supreme Court's Newport News Shipbuilding Co. v. EEOC* (1983) ruling, the company was required to provide pregnancy/maternity leave benefits to the spouses of male employees at a level equivalent to that received by female employees.

Since the passage of the Privacy Act in 1974, Congress has toyed with the idea of passing a similar bill to regulate employee records in the private sector. Many employers are voluntarily developing tight security procedures for personnel records.

The present unemployment situation may lead to more litigation against and regulation of firms that hire illegal aliens. In fact, the Simpson/Mazzoli bill makes it unlawful to knowingly hire illegal foreign workers and grants amnesty only to undocumented aliens who were in the United States before 1980.

An article by Doering and Rhodes[17] suggests that personnel research may forestall litigation that results from an inability to meet the needs of an older work force. Obviously, firms will be influenced by Congressional solutions to the Social Security funding problem, but other issues concerning the older worker, such as staff selection activities, are critical. In recent years, age discrimination suits have been the fastest-growing area of litigation.

Certain existing rules and regulations will be subjected to further scrutiny. Comments by signatory agencies that agreed to the Uniform Guidelines indicate a high probability that they will be reviewed and revised. The *American Tobacco v. Patterson* (1982) and *W. R. Grace v. Rubber Workers, Local 759* (1983) cases, although decided by the U.S. Supreme Court, are probably not the last word concerning seniority systems that unintentionally hurt minority workers. As reflected in the Economic Recovery Act of 1981, tax rules concerning employer benefit payments and the treatment of those benefits as taxable income will become more important. For example, few companies have provided employees with child-care assistance because of tax liabilities for employees.

For personnel professionals, the future holds rapid change, increased complexity, and steady, albeit inconsistent, evolution of case law. The personnel professional's role, out of necessity, must be that of boundary spanner — one who scans the environment, gathers information, and helps the organization to identify potential threats and opportunities. In addition, the personnel professional may assist the organization in devising ways to cope with those environmental entities (suppliers, news media, unions, government, etc.) that attempt to influence it. Tomorrow's personnel professionals must be proactive rather than reactive to change since change in the regulation of personnel/human resource management is inevitable. This proactive stance should be evidenced by ongoing training and development for those involved in personnel activities; participation in professional personnel associations; continuous internal communication between organizational units such as personnel and law departments; constant monitoring of contemplated and existing regulations; and the development, as well as application, of legally defensible personnel policies, procedures, and practices.

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[1]"Reagan Issues Order on Federal Regulation," *Labor Law Journal* (March 1981): 144. Nearly two years later, the President claimed that he had eliminated 200 million man-hours of paperwork imposed on Americans annually and had reduced new regulatory proposals to 15,000 annually, down from 21,000 in 1980. Some regulatory analysts did not agree that Reagan had been effective. See "Reagan's Drive to Cut Regulatory Red Tape Meets Limited Success," *Wall Street Journal* (December 13, 1982): 1, 18.

[2]U.S. Congress. Joint Economic Committee. Murray L. Weidenbaum. *The Cost of Government Regulation of Business Hearings on the Cost of Government Regulation Before the Subcommittee on Economic Growth and Stabilization of the Joint Economic Committee*, 95th Cong., 2nd Sess., April 11 and 13, 1978.

[3]Ibid., p. 46.

[4]Jan Donovan, and David Kasunic. "The Equal Access to Justice Act: An Overview," *Arizona Business* (July/August 1982): 16-17.

[5]Bruce R. Ellig. "The Impact of Legislation on the Personnel Function," *Personnel* (September/October 1980): 49-53.

[6]M.G. Miner, and J.B. Miner, *Employee Selection Within the Law* (Washington, D.C.: The Bureau of National Affairs, 1979): 3-4.

[7]Although job-related qualifications are the criteria typically used, two other possibilities exist. A business necessity defense and bona fide occupational qualification defense have been argued successfully in court.

[8]In this article, the word "test" is used in its broadest sense. It denotes any of a variety of measurement methods, such as evaluation of information on application forms, performance tests, job interviews, and training programs.

[9]*Uniform Guidelines on Employee Selection Procedures* (August 25, 1978), FEP 401: 2231.

[10]The three sets of guidelines cited here are contained in Miner and Miner, pages 402-464 (see reference number 6).

[11]"Uniform Guidelines On Employee Selection Procedures Should Be Reviewed And Revised," Report by the U.S. General Accounting Office, GAO/FPCD-82-26 (July 30, 1982).

[12]"Business necessity" refers to the use of a selection device that has not been validated but for which the employer can clearly demonstrate a strong relationship to performance and the lack of an acceptable alternative with lesser impact on protected group members.

[13]Validation is the process for determining whether a test is related to performance on the job for which it is used.

[14]James Ledvinka. *Federal Regulation of Personnel and Human Resource Management* (Belmont, Calif.: Kent Publishing, 1982): 110-114.

[15]Ad Hoc Group on Uniform Selection Guidelines, "A Professional and Legal Analysis of the Uniform Guidelines on Employee Selection Procedures," Berea, OH: ASPA, 1981.

[16]Ledvinka, op. cit., pp. 113-115.

[17]Mildred Doering and Susan R. Rhodes. "The Aging Work Force: Challenge For Human Resource Managers," *The Collegiate Forum* (Fall 1982): 13, 15.

The Contemporary American Physician: Healer and Manager

BRADFORD KIRKMAN-LIFF

Practicing physicians play a critical and complex role in the American health care system. Due to rigorous training and professional ethics, they strive to provide their patients with the highest-quality medical care. This care comes with a high price tag, however, and the physician, not the patient, decides on the purchase of medical services that define high-quality care. For example, only a physician can admit a patient to the hospital, order diagnostic or curative procedures, and prescribe pharmaceuticals.[1]

In recent years, concern over the rapidly-rising cost of health care has prompted the physician to moderate his/her professional orientation toward high-quality care with an effort to contain costs. The physician is asked by the government, the press, and the patient to make economic and social trade-offs. Would out-patient surgery be as effective and safe as hospital admission? Would diet modification and an exercise program eliminate the need for medication? These and other choices between method of treatment and cost make the duties of the physician more complex than ever.[2,3]

In addition to the physician's responsibilities to provide high-quality health care and to simultaneously contain costs, he/she is expected to be an effective and innovative manager of what is essentially a small business. The proliferation of medical technology has created new medical professions subordinate to the physician. He/she becomes a manager over registered nurses, physician associates, nurse practitioners, nutritionists, clinical psychologists, certified laboratory technologists, physical therapists, and radiology technicians. The increasing complexity of health insurance and other third-party reimbursement has created a demand for efficient and accurate billing systems.[4] Malpractice suits can be avoided or won only through reference to detailed medical records. Patient scheduling — both office visits and hospital admissions — becomes complex when physicians either have admitting privileges at several hospitals or have satellite offices. Larger staffs, computer and word processing systems, and more complex medical practices have made innovation in practice management a high priority for the physician. However, innovative management is difficult for physicians who have finished 11 years of training without a single course in management, accounting, finance or economics.

The issue of practice management is especially critical in the primary medical care specialty of family medicine. The family medicine physician often has a more varied staff and higher patient population than other specialists have. The types of problems that the family physician diagnoses can usually be treated by different methods

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Today's physician is finding him/herself in the new role of small business manager. Larger staffs, computer and word processing systems, and more complex medical practices are making innovative practice management a must. This article reports on a survey of family medicine physicians in Arizona, New Mexico, Ohio, and North Carolina and their use of the latest office management methods.

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that vary in cost, discomfort, and effectiveness. The gaps that often exist in insurance coverage of preventive and primary care must also be considered by the physician. The need to provide time for emergency visits leads to scheduling complications. The coordination of patient referrals to other physicians or to auxiliary providers (nutritionists, clinical psychologists, et al.) requires additional effort.

These issues have led to an increased interest by family medicine physicians and others in the management of their offices. Specialized journals, such as *Medical Economics, Professional Practice Management,* and *Medical Group Management,* have appeared in recent years. Several books also target the physician who is starting a practice.[5,6,7] Yet surprisingly little research has explored how physicians actually handle their office management problems. The purpose of this article is to report on a four-state survey of family medicine physicians and their use of innovative office management methods.

A SURVEY OF FAMILY MEDICINE PHYSICIANS

The survey focused on family medicine physicians because they represent the purest form of the primary care physician. Family medicine is a unique medical specialty for other reasons. For example, not all family medicine physicians are graduates of three-year residency programs: many are general practitioners who have practiced in their communities for decades and have become board-certified through continuing education efforts. Variation in practice management might exist between residency graduates and non-graduates. Secondly, family medicine physicians make up a large proportion of those physicians who decide to practice in small towns or rural areas. The variation between their management practices and those of urban physicians was another focus of the study.

Practice Management Innovations

The survey asked physicians to provide information on their adoption of seven practice management innovations, selected after a review of recent professional publications and discussion with practice management consultants.[4,5,6,7] The innovative technologies or management methods have existed for decades in the business community; however, family medicine physicians have only recently begun to adopt them, making them innovations within the field of family medicine.[8,9] The seven innovations in the survey were:

1. Full-time Office Manager. Physicians have been encouraged to hire a full-time office manager to take responsibility for many or all of the practice management decisions. Office managers range in background from high school graduates with secretarial training (often in solo or small partnership practices) to graduates of Master of Business Administration or Master of Health Services Administration programs (usually in the very largest group practices).

2. Incorporation. Depending upon the profitability of the practice and state laws, incorporation may provide a variety of financial and tax advantages.

3. Formal Office Manual. The office manual documents the standard procedures and policies of the practice. It may include job descriptions, information on employee benefits, and the organization's history and structure. The manual is intended to provide continuity to the office's practices, especially important when nurse turnover is high.

4. Computer Billing. With the advent of the microcomputer, more than a score of commercial firms offer computer systems for the physician's office. Some of these systems are simple billing programs; others include online storage of patient medical records as well as payroll, scheduling, and inventory applications.

5. Chart Dictation. One of the more time-consuming aspects of ambulatory care is the constant documentation of all patient-provider contacts. Medical malpractice suits have been won or lost because of detailed or inadequate medical records. One solution to this problem is to have the physician dictate the medical record and then to have an employee or a service transcribe it.

6. Annual Performance Review. As practice staffs have grown in size and complexity, the need for equitable salary increases has spurred the usage of annual performance reviews. This review usually does not include the physicians of the practice.

7. Scheduled Staff Meetings. In order to better coordinate the practice staff's activities, some clinics close for regularly-scheduled staff meetings that include all providers and support employees.

Other practice management innovations that were not part of this survey include: contracting with private firms for materials management; sale/lease-back of medical office buildings; and franchise of nationally-recognized brand names (such as occurs in the real estate industry). The first two of these innovations pertain only to large group practices, while the last had not migrated from the real estate industry to the health care industry at the time of data collection.

Survey Participation

Arizona, Ohio, New Mexico, and North Carolina affiliates of the American Academy of Family Practice were approached with the concept of the survey. All four state affiliates agreed to participate, as did 15 family medicine residency programs in these states. The membership lists of the affiliates were cross-checked with the lists of graduates of the residency programs. Physicians who were known to be retired or who were faculty in family medicine residency programs were excluded from the study. A total of 1,263 questionnaires were sent, using proportional random sampling. Gross returns were 533, for a 42 percent response rate. Twenty-four responses were deleted because the respondents had either retired or left the field of family medicine for some other medical specialty. Now, 509 responses remained for analysis.

Physician/Practice Characteristics

The physicians and their office practices can be characterized by a variety of demographic variables. Four variables used in this survey were the type of practice, the practice location, the training of the physician, and the number of years in practice. Table 1 relates the data for these measures. Three-quarters of the physicians are in solo practice or small partnerships. The relatively high proportion of physicians in government service — 11 percent — is due to the number of family medicine physicians in the Indian Health Service and the National Health Service Corps.

Less than 20 percent of the physicians are in rural practices; more than half are in major urban centers or in the surrounding suburbs. The physicians are evenly split between those with and those without family medicine residency training, which, in turn, affects the distribution of the years-in-practice data. Residency graduates constitute the majority of physicians who have been in practice for less than five years, while the physicians without residency training form the majority of physicians who have practiced for 11 or more years.

Use of Management Innovations

Table 2 presents usage of the seven management innovations by physicians who responded to the survey. Approximately half of the practices are incorporated and have an office manual, staff meetings and an annual performance review. Less than one-quarter use a computer system for patient billing. Because of possible systematic variation between types of physicians, these variables were reexamined, using various contrasts.

TABLE 1

PHYSICIAN PRACTICE CHARACTERISTICS

Type of Practice	*Percentage*
Solo Practice	37
Partnership	28
Single-specialty Group	10
Multi-specialty Group	14
Governmental Service	11
Total	100
Practice Location	
Urban	35
Suburban	17
Small Town/Semi-rural	31
Rural	17
Total	100
Training	
Family Medicine Residency	52
No Residency	48
Total	100
Years in Practice	
Less than 2	24
2 to 5	23
6 to 10	10
11 to 20	14
More than 20	29
Total	100

Source: Survey conducted by the author, June, 1981.

It is not surprising that all seven management innovations are more likely to be used in a group practice than in a solo practice; these differences are significant at the 99 percent confidence level. The greatest differences involve the presence of a full-time office manager and the scheduling of regular staff meetings. Less than one-third of group practices use computers for billing, still twice the rate for solo practices. The most common management innovation used by solo practices is incorporation, although it ranks fifth for group practices.

The comparison of rural and urban practices did not reveal differences significant at the 99 percent confidence level. However, rural practices are more likely than urban practices to have office managers, office manuals, and staff meetings. This finding is partly due to the disproportionate number of group practices and governmental programs in rural areas.

Significant differences exist between residency graduates and non-graduates in their usage of these seven management techniques. Graduates are more likely than non-graduates to have a formal office manual, chart dictation, annual performance reviews, and staff meetings.

TABLE 2

PERCENTAGE OF PHYSICIANS USING
SELECTED MANAGEMENT INNOVATIONS

Innovation	All MDs	Solo MDs	Group MDs	Rural MDs	Urban MDs	Residency Graduates	Non-Graduates
Full-time Office Manager	43%	19%	59%*	46%	43%	51%	37%
Incorporation	50	41	56*	41	52	49	51
Formal Office Manual (Policies and Procedures)	49	26	62*	51	48	58	40**
Computer Billing	24	14	30*	14	26	21	26
Chart Dictation	41	29	48*	32	42	54	30**
Annual Performance Review	41	28	65*	51	51	63	41**
Scheduled Staff Meetings	52	21	71*	65	50	69	37**

*Significant difference at 99 percent confidence level between Solo and Group MDs.
**Significant difference at 99 percent confidence level between Residency Graduates and Non-graduates.

Source: Survey conducted by the author, June, 1981.

These findings are influenced by a tendency for family medicine graduates to be in group practices.

Impact on Output, Productivity, Profitability

The impact of these management innovations on physician output and productivity and on practice profitability was sought through survey questions on volume of services, physician working hours, and the practice's financial performance. Although a low response rate on the last two items makes it inappropriate to examine productivity or financial impacts, the physicians willingly provided information on their volume of services. The office visit and hospital admission measures are aggregate statistics and do not represent the diversity in types of office visits or hospital admissions that family medicine physicians experience. The mean values for these variables were computed for the total sample and for various dichotomies. The differences between the means were then tested for statistical significance. Table 3 shows few significant differences. In the office visit category, incorporated practices produce more outputs, and practices with chart dictation have fewer outputs. No significant relationship exists between any of the management innovations and hospital admissions.

CONCLUSION

Analysis of Table 3 data leads to a surprising conclusion: No consistent improvement in physician output results from using a variety of management innovations. Several of these methods are widely used (see Table 2), yet their presence or absence has little impact on the two aggregate measures of output. Several possible reasons for these findings follow:

1. The management innovations may not always be cost-effective in a physician's office. The time spent in staff meetings, performance reviews, or the preparation of an office manual may not yield a sufficient improvement in output to justify the efforts.

2. Usage of the management methods may be ineffectual. The employment of an office manager, for example, without appropriate delegation of authority, could be counterproductive. The purchase of a sophisticated computer system, without adequate manual systems or employee training, may lower output. Chart dictation

TABLE 3

IMPACT OF PRACTICE CHARACTERISTICS AND MANAGEMENT INNOVATIONS ON TOTAL OUTPUT

	N[a]	*Office Visits Per Week*	*Hospital Admissions Per Week*
All Physicians	487	121	4.5
Practice Characteristics:			
Solo MD	179	124	4.4
Group MD	304	119	4.6
Rural MD	80	120	5.4
Urban MD	407	121	4.3*
Residency Graduate	250	115	4.3
Non-graduate	237	126*	4.7
Use of Management Innovations			
Full-time Office Manager:			
Present	200	123	4.7
Absent	262	119	4.3
Incorporated:			
Present	240	129	4.8
Absent	242	113*	4.2
Formal Office Manual:			
Present	233	116	4.6
Absent	246	126	4.5
Computer Billing:			
Present	117	125	4.8
Absent	370	120	4.5
Chart Dictation:			
Present	176	112	4.1
Absent	255	126*	4.7
Annual Performance Review:			
Present	222	118	4.3
Absent	216	122	4.6
Scheduled Staff Meetings:			
Present	253	116	4.4
Absent	228	125	4.7

*Significant difference at 99 percent confidence level.

[a]Totals in this column do not always add to 487 due to incomplete response on individual questions.

Source: Survey conducted by the author, June, 1981.

may not improve output or productivity if the ease of dictation results in longer reports.

3. Rather than affecting output, these management innovations may impact on productivity or profitability (incorporation, in particular, affects only profitability). The innovations may reduce physician idle or management time (time spent on chart dictation, patient scheduling, billing, supervision), thus improving productivity, which increases output. Working hours might also be reduced, allowing: the physician more leisure time, while: the practice staff maintains output. Anecdotal information indicates that: the latter may be: the case. Residency graduates, physicians in suburban areas, and physicians in groups express a preference for working fewer hours, even if a reduction in total income results.

4. The innovations may reduce idle or management time, but rather than expanding output or reducing working hours, the physician may choose to spend more time with each patient. Thus, the benefit of better management would be the improvement of the quality of medical care. Only detailed records on physician behavior would reveal if more patient-provider interaction is occurring.

The data from this four-state survey show that management innovations are being adopted by family medicine physicians. The impact is not clear, however: The innovations may not be cost-effective; they may be ineffectually utilized; they may be allowing physicians to reduce their working hours; or they may be increasing the quality of the patient-provider relationship. From a patient's perspective, the last impact would certainly be the most desirable: innovative practice management allowing the physician to spend more time as a healer.

[1]Eliot Freidson, *The Profession of Medicine* (New York: Dodd, Mead, 1970).
[2]Victor Fuchs, *Who Shall Live?* (New York: Basic Books, 1974).
[3]Alain Enthoven, *Health Plan* (Reading, Mass.: Addison-Wesley, 1980).
[4]Jan Brandejs and Graham Pace, *Physician's Prime: on Computers — Private Practice* (Lexington, Mass.: D.C. Heath, 1979).
[5]Frank Moya, *Fundamentals of Management for the Physician* (Springfield, Ill.: Charles C. Thomas, 1974).
[6]Leif Beck, *The Physician's Office* (Princeton, N.J.: Excerpta Medica, 1977).
[7]John Aluise, *The Physician as Manager* (Bowie, Md.: Charles Press, 1980).
[8]Gerald Zaltman, Robert Duncan, and Jonny Holbek, *Innovations and Organizations* (New York: John Wiley, 1973).
[9]Arnold Kaluzny, John Gentry and James Veney, *Innovations in Health Care Organizations: An Issue in Organizational Change* (Chapel Hill, N.C.: Department of Health Administration, University of North Carolina, 1973).

Arizona Construction Activity

JAY Q. BUTLER

SECOND QUARTER

Led by the single-family and apartment sectors, Arizona construction activity achieved its highest quarterly level of the 1980s during second quarter, 1983. Recent increases in mortgage and prime interest rates, however, portend a slowing in construction activity for the remainder of 1983.

Second quarter activity built on a strong first quarter with a 32 percent increase in total recorded building permits (from 23,903 to 31,442 permits) and a 44 percent increase in dollar value (from $679 million to $979 million). For the same period, Maricopa County recorded 62 percent of the total permits issued, a 30 percent increase (from 14,681 to 19,123 permits) and 69 percent of the total dollar value, a 58 percent increase (from $422 million to $666 million). Specific areas of construction activity are presented in Table 1; the quarterly building permit and new housing starts tables are at the end of this report.

SECTORAL ACTIVITY

Residential

Maricopa County. The single-family sector continued to improve through the second quarter, increasing from 4,670 permits, valued at $185 million, to 6,670 permits, worth $326 million. The movement was consistent throughout the quarter, with 2,123 permits in April; 2,192 permits in May; and 2,355 permits in June. For the first half of 1983, a total of 11,340 single-family permits were issued, in contrast to 13,380 permits issued during the entire year of 1982.

Current building activity is occurring in previous areas of expansion, including east Mesa, north Chandler, and Deer Valley (northwest Phoenix). Activity has also increased in Gilbert, Glendale, and Peoria.

In order to sustain and expand the housing recovery, home building must be supported by home buying. New homes sales increased from 2,306 homes during first quarter, 1983, to 3,162 homes during second quarter, 1983. Resale home activity also improved during the same period, from 7,931 to 9,785 homes. More information on sales activity is reported on page 25 of this issue of *Arizona Business*.

Rest of Arizona. Pima County also registered a strong increase in single-family home-building activity, increasing from 1,136 permits ($60 million) during the first quarter to 1,307 permits ($70 million) during the second quarter. Mobile home activity continued to be a significant element of the housing market, with 781 permits issued during the second quarter, up from the first quarter's 588 permits.

For the non-metropolitan counties, 1,622 second quarter permits ($70 million) were recorded, which is a jump from the 1,040 permits ($44 million) issued during the first quarter. Significant areas of single-family home-building activity were Sierra Vista (120 permits), Flagstaff (117 permits), Lake Havasu City (71 permits),

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TABLE 1

KEY SECTOR CONSTRUCTION ACTIVITY
(Second Quarter 1983, First Quarter 1983, and Second Quarter 1982)

	SINGLE FAMILY		APARTMENTS[a]		OFFICE BUILDINGS[b]		RETAIL STORES[c]		INDUSTRIAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
MARICOPA COUNTY										
Second Quarter 1983	6,670	325,482,709	403	140,029,283	59	27,080,694	124	23,980,172	90	20,089,026
First Quarter 1983	4,670	188,486,261	264	87,484,873	50	27,067,797	152	15,386,004	88	15,215,540
Second Quarter 1982	3,003	123,880,790	96	23,180,747	61	37,356,438	75	21,780,144	117	22,287,969
PIMA COUNTY										
Second Quarter 1983	1,307	69,660,397	22	39,392,814	31	13,076,762	22	8,419,584	4	1,376,000
First Quarter 1983	1,136	60,242,377	22	53,644,014	18	4,675,057	18	11,346,011	1	220,000
Second Quarter 1982	510	30,472,676	14	19,000,785	29	12,924,999	24	5,263,572	4	3,100,000
REST OF ARIZONA										
Second Quarter 1983	1,622	69,858,948	31	11,472,261	34	2,887,876	60	3,370,072	28	1,578,241
First Quarter 1983	1,040	43,729,582	10	6,180,497	26	2,051,495	58	6,005,120	22	2,037,434
Second Quarter 1982	1,045	41,432,647	21	7,377,363	24	1,280,066	99	16,752,838	30	9,407,007
ARIZONA TOTAL										
Second Quarter 1983	9,599	465,002,054	456	190,894,358	124	43,045,320	210	37,438,253	122	23,043,567
First Quarter 1983	6,846	292,458,220	296	147,309,884	94	33,794,349	228	32,737,135	111	17,472,974
Second Quarter 1982	4,567	195,786,113	131	49,558,895	114	51,561,503	198	43,796,554	151	34,794,976

[a]Five or more housing units.
[b]Office, bank, medical and professional buildings.
[c]Shopping centers and other mercantile buildings.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University.

Prescott (52 permits) and Yuma (87 permits). Mobile home activity also accelerated from the first quarter's 1,027 permits to the second quarter's 1,511 permits, an increase of 48% permits. Strong areas of activity continued to be the counties of Cochise (106 permits) Coconino (179 permits), Mohave (247 permits), Pinal (188 permits) and Yavapai (299 permits).

Commercial

Maricopa County. The apartment sector (5 or more units) continued to be strong, with 403 permits ($140 million) during the second quarter, compared to 264 permits ($87 million) during the first quarter and 96 permits ($23 million) one year earlier. The problem confronting this sector was an increase in the vacancy rate from the first quarter's 5 percent to the second quarter's 11 percent.

Historically, the vacancy rate increases during the second quarter due to the exodus of winter residents and students. Other reasons include: (1) the high rate of apartment construction, (2) improvement in the single-family home-building sector, drawing away renters, and (3) people who are unable to find jobs, moving from the area. As reported in several publications, the increase in vacant units was not unique to Phoenix but also occurred in cities such as Houston, Atlanta and Dallas. Given the historical cycle evident in the Phoenix apartment market, activity during the third and fourth quarters will be better determinants of the basic strength and future of the apartment sector.

While much attention was focused on the large apartment projects, smaller units (duplexes and 3-4 family) experienced an increase in activity, especially in Mesa. For the second quarter, Mesa recorded 56 duplex permits and 27 3-4-family permits, compared to the first quarter's 58 duplex permits and 29 3-4-family permits. These housing types are especially attractive to small families (young and retired) because they offer privacy and larger units.

The office building sector remained stable, increasing to 59 permits ($27 million) from the first quarter level of 50 permits ($27 million), but dipping well below the 61 permits ($37 million) of second quarter, 1982. Much of the activity was reported in Mesa, with 3 permits ($4 million); Phoenix, with 40 permits ($18 million); and Scottsdale, with 6 permits ($4 million). With the

resurgence of both single-family home construction and consumer buying, retail activity improved, moving from 152 permits ($15 million) for the first quarter, 1983, to 124 permits ($24 million) for the second quarter, 1983.

Rest of Arizona. Apartment construction was also active in Pima County, with 22 permits ($39 million) issued during the second quarter, down from the first quarter level of 22 permits ($54 million). Two office projects in Tucson (a $5.9 million office building and a $2 million bank), spurred an improvement in the office building sector from 18 first quarter permits ($5 million) to 31 second quarter permits ($13 million). Even with two multi-million-dollar projects in Tucson, retail dollar volume declined from the first quarter's $11 million (18 permits), to the second quarter's $8 million (22 permits).

Apartment activity improved even in the non-metropolitan counties, increasing from 10 first quarter permits ($6 million) to 31 second quarter permits ($11 million). Much of the apartment activity occurred in the following areas: Mohave Valley North (88 units), Flagstaff (7 units), Casa Grande (56 units), and Sierra Vista (188 units).

Retail dollar volume declined from $6 million (58 permits) in the first quarter to $3 million (60 permits) in the second quarter. Dollar volume was markedly down from the second quarter, 1982, level of $17 million (99 permits). The decline can be attributed to a weak economy in many of the counties and the low level of market potential, given the previous level of construction activity.

Industrial and Other Sectors

In response to an improving economy, industrial activity in Maricopa County improved slightly, moving up from the first quarter level of 88 permits ($15 million) to 90 permits ($20 million) in the second quarter. While any improvement is good, the reported levels were well below those achieved in previous years (more than 100 permits, exceeding $30 million in value). The primary areas of activity continued to be Mesa (7 permits valued at $3 million), Phoenix (27 permits valued at $7 million), and Tempe (39 permits valued at $5 million).

Pima County continued to produce low levels of industrial construction activity, with 4 permits totaling $1 million. In the other counties, no major projects were announced; thus, industrial activity maintained a low level of 28 permits valued at $1 million.

The Other sector includes permit activity such as public projects, permit renewals, signs, and swimming pools. Led by several major public projects in Maricopa County, this sector increased from 6,571 first quarter permits ($57 million) to the second quarter level of 8,764 permits ($90 million). Construction activity includes an $11 million state project in Phoenix, a $1 million school project in Mesa, and a $4.5 million municipal complex in Glendale. Table 1 shows similar increases in other counties, including a $5 million educational project in Eagar, a $700,000 hospital remodeling project in Flagstaff, and a $1 million nursing home in Mohave County.

LOOKING AHEAD

Because the construction industry is a major contributor to Arizona's economy, continued improvement is vital to the state's economic recovery. Within the industry, the single-family home sector supplies jobs, stimulates the market for purchasing materials, and fulfills housing demand. The key to the industry's future is the willingness and ability of consumers to make home purchases.

Single-family home activity during the last several quarters has demonstrated the sensitivity of consumers to mortgage interest rates. While interest rates were declining from historic highs, there was almost universal recognition that the decline would reverse in response to the credit demands of the federal government and private industry. The reverse began in the latter part of the second quarter, with increases in the widely-monitored FHA/VA mortgage interest rate.

Interest rate activity affects not only the economic ability of consumers to buy but also their psychological desire to buy. While it is still too early to determine the full impact of rising interest rates, they will undoubtedly slow the housing recovery. The total impact will be a function of the final level of mortgage interest rates and their expected duration at that level. At this time, there is considerable disagreement concerning their future direction.

Some of the expected slowdown in residential construction activity will probably be picked up by improvement in the office building and industrial sectors. As the economy continues to improve, there will be an increasing need by firms to find space for new or expanded activities. Rising interest rates and lingering economic uncertainty will tend to restrain the full expansion potential of these two sectors.

Because construction activity is related to the growth potential of an area's economic base, the economic recovery will affect construction activity in each county differently. Maricopa and Pima Counties have fairly diverse and growth-oriented economic bases, which will allow for a strong construction recovery. Other counties, such as Greenlee and Graham that rely on mining or

forest products, will tend to recover more slowly. Most other counties have reported relatively stable levels of activity. However, due to a limited economic base in most non-metropolitan counties, a few large projects can affect their reported levels of construction activity, exemplified by apartment activity in Sierra Vista ($3 million), a hotel project in Mohave County ($3 million), and educational construction in Eagar ($5 million). Hence, future levels and strength of construction activity in these counties will be related to their respective abilities to establish a growing economic base.

Because some projects already have financing, and builders are offering buyers special financing packages, the impact of the recent increases in interest rates and vacancies will not be reflected in real estate data until the latter part of the third quarter. If the economy continues to improve, and inflation remains low, construction activity, especially in the residential sector, will slow but will not become depressed. Slowing provides benefits, allowing material supplies to increase in a more rational and less costly manner. Thus, when interest rates again decline, the industry will be well prepared to supply the market with readily-affordable products that will further enhance construction activity and the economy of the state.

Metropolitan Phoenix Real Estate Sales: Quarterly Report

SECOND QUARTER, 1983

Median Sales Price

	SINGLE FAMILY			TOWNHOUSE/CONDOMINIUM			
	New	*Resale*	*Total*	*New*	*Resale*	*Total*	*Grand Total*
Annual, 1982	$65,500	$64,800	$64,900	$44,900	$59,800	$56,000	$63,500
First Quarter 1983	65,600	64,000	64,500	45,600	59,900	53,000	63,000
Second Quarter 1983	68,100	65,500	66,800	50,200	61,000	57,000	65,000

Approximate Number of Sales

Annual, 1982	3,390	23,640	27,030	1,190	4,030	5,220	32,250
First Quarter 1983	1,760	6,900	8,660	540	1,030	1,570	10,230
Second Quarter 1983	2,470	8,440	10,910	690	1,350	2,040	12,950

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University; from data supplied by Marketron Services, Inc., Phoenix.

With this issue of *Arizona Business*, the ASU Bureau of Business and Economic Research commences publication of quarterly data on the number and median value of residential home sales in the Phoenix metropolitan area. The Bureau calculates the data from the recorded real estate transactions supplied by Marketron Services, Inc., Phoenix.

The median sales price reported in this data series is calculated simply as the midpoint of all sales prices; it can be considerably different from the mean (average) sales price. The mean is typically much higher because of the relatively small number of very expensive homes sold (the 1982 mean was approximately $77,700, while the median was $63,500). The median *sales price* is not necessarily a good estimate of the median *value* of homes in the Phoenix area since less expensive homes tend to sell more easily during recessionary economic conditions.

The number of sales reported is an approximation since it is not mandatory to record a real estate transaction; nor are all of the recordings usable due to incomplete addresses, etc. In particular, the distinction between new and resale homes is an estimate, derived from various data in the recording.

Questions concerning the data in this report and requests for more detailed data should be directed to Tom Rex, the Bureau's Research Specialist, at (602) 965-3961.

Arizona Building Permits: Quarterly Report

SECOND QUARTER, 1983

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value	Number of Permits	Dollar Value
APACHE COUNTY	51	667,790	6	99,000	0	0	5	5,867,444	62	6,634,234
Eagar	22	508,540	2	75,000	0	0	3	5,867,444	27	6,450,984
St. Johns	12	0	0	0	0	0	1	0	13	0
Springerville	9	0	2	0	0	0	1	0	12	0
Unincorporated	8	159,250	2	24,000	0	0	0	0	10	183,250
COCHISE COUNTY	410	10,849,184	21	4,504,197	3	145,000	287	863,515	721	16,361,896
Benson	22	152,150	0	0	0	0	29	35,744	51	187,894
Bisbee	12	74,000	0	0	1	20,000	4	13,000	17	107,000
Douglas	24	417,412	0	0	0	0	44	88,165	68	505,577
Huachuca City	17	89,978	1	7,000	0	0	0	0	18	96,978
Sierra Vista	146	5,594,131	15	4,048,197	0	0	140	292,240	301	9,934,568
Tombstone	5	4,500	0	0	0	0	15	30,700	20	35,200
Unincorporated	172	4,489,463	4	409,000	1	120,000	37	367,016	214	5,385,479
Willcox	12	27,550	1	40,000	1	5,000	18	36,650	32	109,200
COCONINO COUNTY	611	17,528,560	33	1,862,189	2	31,000	141	1,582,014	787	21,003,763
Flagstaff	201	9,508,254	12	840,124	1	31,000	99	1,279,036	313	11,658,414
Fredonia	9	6,500	1	21,000	1	0	0	0	11	27,500
Page	62	792,154	4	388,023	0	0	14	213,656	80	1,393,833
Unincorporated	318	6,938,793	15	598,042	0	0	11	73,498	344	7,610,333
Williams	21	282,859	1	15,000	0	0	17	15,824	39	313,683
GILA COUNTY	289	3,835,012	3	55,000	4	112,230	83	318,304	379	4,320,546
Globe	10	22,095	0	0	0	0	3	20,300	13	42,395
Hayden	0	0	0	0	0	0	6	2,500	6	2,500
Miami	3	1,200	0	0	0	0	1	3,000	4	4,200
Payson	132	1,098,728	0	0	4	112,230	25	115,254	161	1,326,212
Unincorporated	144	2,712,989	3	55,000	0	0	48	177,250	195	2,945,239
GRAHAM COUNTY	108	1,124,188	7	160,990	0	0	12	27,500	127	1,312,678
Pima	11	140,725	0	0	0	0	1	600	12	141,325
Safford	18	148,017	5	146,990	0	0	10	26,400	33	321,407
Thatcher	13	173,700	0	0	0	0	1	500	14	174,200
Unincorporated	66	661,746	2	14,000	0	0	0	0	68	675,746
GREENLEE COUNTY	1	5,500	0	0	0	0	0	0	1	5,500
Clifton	0	0	0	0	0	0	0	0	0	0
Duncan	0	0	0	0	0	0	0	0	0	0
Unincorporated	1	5,500	0	0	0	0	0	0	1	5,500
LA PAZ COUNTY	48	947,903	2	103,787	0	0	22	260,551	72	1,312,241
Parker	5	13,720	2	103,787	0	0	3	40,200	10	157,707
Unincorporated	43	934,183	0	0	0	0	19	220,351	62	1,154,534
MARICOPA COUNTY	9,453	345,318,377	808	210,604,733	90	20,089,026	8,772	90,153,897	19,123	666,166,033
Avondale	23	142,583	12	1,443,040	0	0	39	139,770	74	1,725,393
Buckeye	3	74,500	2	45,000	0	0	3	396,800	8	516,300
Chandler	765	35,741,404	19	3,839,604	1	30,000	1,024	6,500,089	1,809	46,111,097
El Mirage	18	169,400	3	198,000	0	0	0	0	21	367,400
Gila Bend	1	500	2	50,000	0	0	3	126,400	6	176,900
Gilbert	145	8,021,214	19	4,318,826	3	304,272	61	1,223,929	228	13,868,241
Glendale	803	26,302,901	49	4,307,145	0	0	958	11,829,647	1,810	42,439,693
Goodyear	0	0	0	0	1	57,184	28	64,365	29	121,549
Guadalupe	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Mesa	885	37,127,867	72	38,750,978	8	3,455,695	1,126	8,907,348	2,091	88,241,888
Paradise Valley	87	6,054,557	0	0	0	0	83	959,101	170	7,013,658
Peoria	381	8,048,034	5	874,040	1	62,945	345	489,286	732	9,474,305
Phoenix	2,946	99,070,382	270	69,922,585	29	9,496,800	2,095	36,926,733	5,340	215,416,500
Scottsdale	695	51,491,491	91	35,932,919	3	888,630	483	11,025,601	1,272	99,338,641
Surprise	16	391,700	4	2,389,008	0	0	16	23,311	36	2,804,019
Tempe	488	25,882,500	151	33,522,800	39	5,573,500	382	7,777,100	1,060	72,755,900
Tolleson	28	155,494	0	0	0	0	1	360,000	29	515,494
Unincorporated	2,155	46,395,024	107	14,683,788	5	220,000	2,123	3,400,537	4,390	64,699,349
Wickenburg	9	182,730	1	97,000	0	0	2	3,880	12	283,610
Youngtown	5	66,096	1	230,000	0	0	0	0	6	296,096

Arizona Building Permits: Quarterly Report (Continued)

SECOND QUARTER, 1983

	RESIDENTIAL*		COMMERCIAL		INDUSTRIAL		OTHER		TOTAL	
	Number of Permits	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*	*Number of Permits*	*Dollar Value*
MOHAVE COUNTY	920	12,284,218	59	9,771,911	2	265,935	842	3,697,975	1,823	26,020,039
Kingman City	47	561,718	12	915,722	0	0	16	97,149	75	1,574,589
Kingman Area	180	1,954,010	9	579,040	0	0	159	143,497	348	2,676,547
Lake Havasu City	105	3,086,469	6	3,736,345	1	127,771	39	386,171	151	7,336,756
Lake Havasu Area	13	118,202	1	4,608	0	0	10	81,942	24	204,752
Mohave Valley N.	312	3,471,798	22	4,264,900	0	0	282	2,436,425	616	10,173,123
Mohave Valley S.	125	1,678,408	3	127,584	0	0	117	200,316	245	2,006,308
Dolan Springs	32	391,677	1	17,280	0	0	44	48,190	77	457,147
Sacramento Valley	91	787,282	4	118,656	0	0	162	277,663	257	1,183,601
Mohave General	15	234,654	1	7,776	1	138,164	13	26,622	30	407,216
NAVAJO COUNTY	432	8,353,776	14	2,224,715	2	118,169	89	1,262,782	537	11,959,442
Holbrook	4	54,500	1	5,000	0	0	5	28,200	10	87,700
Show Low	41	763,700	5	359,000	0	0	46	71,300	92	1,194,000
Snowflake	11	0	2	0	0	0	0	0	13	0
Taylor	12	101,000	0	0	0	0	1	0	13	101,000
Unincorporated	334	6,993,512	5	805,715	2	118,169	34	1,155,282	375	9,072,678
Winslow	30	441,064	1	1,055,000	0	0	3	8,000	34	1,504,064
PIMA COUNTY	2,922	75,823,877	84	61,690,891	4	1,376,000	2,090	24,809,841	5,100	163,700,609
Marana	7	0	1	0	0	0	5	0	13	0
Oro Valley	53	2,176,707	1	1,500,000	0	0	10	104,000	64	3,780,707
South Tucson	15	78,956	0	0	0	0	16	76,794	31	155,750
Tucson	864	16,833,314	72	49,624,691	0	0	933	15,855,047	1,869	82,313,052
Unincorporated	1,983	56,734,900	10	10,566,200	4	1,376,000	1,126	8,774,000	3,123	77,451,100
PINAL COUNTY	506	7,429,852	29	4,290,837	4	325,510	225	1,253,577	764	13,299,776
Apache Junction	154	2,905,473	14	1,434,576	0	0	122	607,008	290	4,947,057
Casa Grande	27	701,517	8	2,487,761	1	235,510	48	217,149	84	3,641,937
Coolidge	58	223,900	0	0	0	0	6	5,700	64	229,600
Eloy	6	14,300	1	42,500	0	0	5	31,200	12	88,000
Florence	20	365	0	0	0	0	2	821	22	1,186
Kearny	1	1,000	0	0	0	0	1	68,000	2	69,000
Mammoth	2	0	0	0	0	0	0	0	2	0
Superior	7	14,321	0	0	0	0	3	3,130	10	17,451
Unincorporated	231	3,568,976	6	326,000	3	90,000	38	320,569	278	4,305,545
SANTA CRUZ COUNTY	33	1,663,925	0	0	0	0	18	529,311	51	2,193,236
Nogales	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	3	118,700	0	0	0	0	5	34,652	8	153,352
Unincorporated	30	1,545,225	0	0	0	0	13	494,659	43	2,039,884
YAVAPAI COUNTY	957	22,557,808	43	5,212,877	8	376,040	353	2,754,041	1,361	30,900,766
Chino Valley	40	938,078	1	4,500	0	0	18	64,809	59	1,007,387
Clarkdale	10	333,700	0	0	1	38,400	9	8,000	20	380,100
Cottonwood	34	394,255	2	196,918	2	63,736	16	105,029	54	759,938
Jerome	4	3,320	0	0	0	0	1	100	5	3,420
Prescott	121	3,263,035	7	1,261,014	0	0	191	915,875	319	5,439,924
Prescott Valley	114	1,955,870	1	38,000	1	30,000	1	45,600	117	2,068,970
Unincorporated	634	15,670,050	32	3,712,445	4	243,904	117	1,614,628	787	21,241,027
YUMA COUNTY	400	10,298,722	11	2,375,604	3	204,657	120	1,287,781	534	14,166,764
Somerton	22	229,657	0	0	1	36,400	10	12,740	33	278,797
Unincorporated	171	3,907,877	5	1,762,898	2	168,257	44	314,750	222	6,153,782
Wellton	1	6,480	0	0	0	0	2	1,000	3	7,480
Yuma	206	6,154,708	6	612,706	0	0	64	959,291	276	7,726,705
Total, Maricopa Co., 2nd Quarter, 1983	9,453	345,318,377	808	210,604,733	90	20,089,026	8,772	90,153,897	19,123	666,166,033
Total, Maricopa Co., 2nd Quarter, 1982	5,434	136,743,239	378	97,085,178	117	22,287,969	5,310	73,844,758	11,239	329,961,144
Percent Change	73	152	113	116	−23	−9	65	22	70	101
Total, Arizona 2nd Quarter, 1983	17,141	518,688,692	1,120	302,956,731	122	23,043,567	13,059	134,668,533	31,442	979,357,523
Total, Arizona 2nd Quarter, 1982	10,825	232,510,723	736	181,851,747	151	34,794,976	8,832	116,697,597	20,544	565,855,043
Percent Change	58	123	52	66	−19	−33	47	15	53	73

*Includes Mobile Homes
N/R: No Report
Note: Some communities do not collect dollar valuations.

Arizona New Housing Starts: Quarterly Report

SECOND QUARTER, 1983

BUILDING PERMITS ISSUED

	One Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
APACHE COUNTY	15	15	0	0	0	30
Eagar	8	6	0	0	0	14
St. Johns	1	9	0	0	0	10
Springerville	3	0	0	0	0	3
Unincorporated	3	0	0	0	0	3
COCHISE COUNTY	175	106	0	8	6	512
Benson	1	7	0	0	0	8
Bisbee	0	0	0	0	0	0
Douglas	3	0	0	0	0	3
Huachuca City	1	0	0	0	0	1
Sierra Vista	120	9	0	7	5	350
Tombstone	0	2	0	0	0	2
Unincorporated	50	86	0	1	1	146
Willcox	0	2	0	0	0	2
COCONINO COUNTY	265	190	3	5	2	493
Flagstaff	117	33	2	3	1	170
Fredonia	0	7	0	0	0	7
Page	7	41	1	2	0	54
Unincorporated	139	106	0	0	1	257
Williams	2	3	0	0	0	5
GILA COUNTY	102	63	1	0	0	167
Globe	0	0	0	0	0	0
Hayden	0	0	0	0	0	0
Miami	0	0	0	0	0	0
Payson	38	32	0	0	0	70
Unincorporated	64	31	1	0	0	97
GRAHAM COUNTY	14	44	0	1	0	62
Pima	2	3	0	0	0	5
Safford	2	0	0	1	0	6
Thatcher	1	2	0	0	0	3
Unincorporated	9	39	0	0	0	48
GREENLEE COUNTY	0	0	0	0	0	0
Clifton	0	0	0	0	0	0
Duncan	0	0	0	0	0	0
Unincorporated	0	0	0	0	0	0
LA PAZ COUNTY	6	31	0	0	0	37
Parker	0	0	0	0	0	0
Unincorporated	6	31	0	0	0	37
MARICOPA COUNTY	6,670	400	111	144	403	13,797
Avondale	4	15	0	8	0	51
Buckeye	2	0	0	0	0	2
Chandler	638	0	0	7	10	746
El Mirage	1	0	0	0	0	1
Gila Bend	0	0	0	0	0	0
Gilbert	140	0	0	2	15	268
Glendale	727	0	6	0	30	1,108
Goodyear	0	0	0	0	0	0
Guadalupe	N/R	N/R	N/R	N/R	N/R	N/R
Mesa	746	0	56	27	30	1,905
Paradise Valley	29	0	0	0	0	29
Peoria	300	0	19	0	1	346
Phoenix	2,049	59	23	47	142	4,329
Scottsdale	581	0	0	0	69	1,378
Surprise	6	1	0	0	0	7
Tempe	355	0	6	23	85	1,576
Tolleson	1	1	0	0	0	2
Unincorporated	1,087	324	0	29	20	2,031
Wickenburg	4	0	0	1	0	8
Youngtown	0	0	1	0	1	10

N/R: No Report.

BUILDING PERMITS ISSUED

	One Family	Mobile Homes	Duplex	3-4 Families	5 or More	Total Housing Units
MOHAVE COUNTY	193	247	1	5	9	563
Kingman City	11	0	0	1	1	18
Kingman Area	32	58	0	0	0	90
Lake Havasu City	71	3	0	0	2	84
Lake Havasu Area	0	7	0	0	0	7
Mohave Valley N.	39	89	0	4	6	232
Mohave Valley S.	21	45	1	0	0	68
Dolan Springs	8	9	0	0	0	17
Sacramento Valley	4	34	0	0	0	38
Mohave General	7	2	0	0	0	9
NAVAJO COUNTY	179	108	0	0	1	312
Holbrook	1	0	0	0	0	1
Show Low	12	13	0	0	0	25
Snowflake	8	0	0	0	0	8
Taylor	3	8	0	0	0	11
Unincorporated	147	86	0	0	0	233
Winslow	8	1	0	0	1	34
PIMA COUNTY	1,307	781	33	8	22	3,986
Marana	0	6	0	0	0	6
Oro Valley	51	0	0	0	1	147
South Tucson	0	2	0	0	0	2
Tucson	293	135	33	8	19	1,840
Unincorporated	963	638	0	0	2	1,991
PINAL COUNTY	127	230	2	13	7	469
Apache Junction	30	105	1	9	0	173
Casa Grande	12	0	1	0	7	70
Coolidge	4	3	0	0	0	7
Eloy	1	0	0	0	0	1
Florence	0	13	0	0	0	13
Kearny	0	0	0	0	0	0
Mammoth	0	0	0	0	0	0
Superior	0	0	0	0	0	0
Unincorporated	80	109	0	4	0	205
SANTA CRUZ COUNTY	26	0	3	0	0	32
Nogales	N/R	N/R	N/R	N/R	N/R	N/R
Patagonia	2	0	0	0	0	2
Unincorporated	24	0	3	0	0	30
YAVAPAI COUNTY	406	309	5	4	6	934
Chino Valley	13	20	0	0	0	33
Clarkdale	5	2	0	0	0	7
Cottonwood	4	13	0	0	0	17
Jerome	0	0	0	0	0	0
Prescott	52	21	1	2	0	83
Prescott Valley	50	33	1	0	0	85
Unincorporated	282	220	3	2	6	709
YUMA COUNTY	114	168	4	2	0	297
Somerton	3	3	0	0	0	6
Unincorporated	24	130	0	0	0	154
Wellton	0	0	0	0	0	0
Yuma	87	35	4	2	0	137
Total, Maricopa Co., 2nd Quarter, 1983	6,670	400	111	144	403	13,797
Total, Maricopa Co., 2nd Quarter, 1982	3,003	354	23	67	96	4,729
Percent Change	122	12	382	114	319	191
Total, Arizona, 2nd Quarter, 1983	9,599	2,692	163	190	456	21,691
Total, Arizona, 2nd Quarter, 1982	4,567	1,959	49	97	131	9,354
Percent Change	110	37	232	95	248	131

A Survey of Arizona Business Conditions

HAROLD FEARON

MARCH

The recovery is for real! For the second month in a row, key economic indicators flashed a strongly-positive signal, according to the March business survey of the Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona. New orders from customers, production, and employment hit their highest growth rates since May 1979 — close to four years earlier. However, prices also advanced in March, indicating a potential problem down the road. But for the present, a strong recovery is underway.

The purchasing business survey is in its 21st year of consecutive monthly reporting on the current status of the Arizona economy. Data are gathered through a questionnaire sent at the close of each month to purchasing managers throughout the state, asking them to indicate the direction of activity — higher, unchanged, or lower — on six key indicators of economic activity in the month just ended. Since these purchasing managers deal daily with the forces of supply and demand, they are able to provide timely and accurate information on current business trends, which facilitates the spotting of economic turning points.

Prices

Prices paid for major purchased items rose in March, and the increase was the largest in 13 months — since February 1982. Higher prices were reported by 20 percent of the purchasing managers; only 10 percent paid lower prices in March than in February, while 70 percent said prices were unchanged. Although the price indicator went up noticeably in March, suppliers may simply have been testing the market after a year in which a very sluggish economy forced them to accept price restraints. In the absence of a major economic shock, it is unlikely that severe inflationary pressures will return anytime soon; the worldwide oil glut will help to curtail any general inflationary trend, and serious supply bottlenecks will not return for some time.

Delivery Time

Delivery time on shipments from vendors continued to stretch, as predicted in February. March's increase, the fifth in a row, was substantially greater than February's; it was also the highest jump since April 1981 — 22 months earlier. Twenty-five percent of the firms said they waited longer in March to receive deliveries from vendors, compared to the much smaller 11 percent that received faster vendor service. As the recovery gains steam, vendor lead times will continue to lengthen.

Inventory Levels

Inventory levels of purchased materials went up slightly, mirroring February's performance. Higher inventories were reported by 31 percent of the firms, almost equivalent to the 28 percent that cut stocks. The inventory rebuilding did not show much strength, as Arizona firms continued to be cautious. However, the encouraging new order and production performance is likely to

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cause an inventory escalation to begin shortly, and this will further accentuate the recovery.

New Orders

New orders received from customers, the bellwether indicator of Arizona's economic health, rose for the third consecutive month and at a rate greater than in February. Forty-eight percent of the purchasing managers said their firms booked more new business in March than in February, which was more than three times the 15 percent who saw their order books shrink and was the largest one-month increase in close to four years (since May 1979). The speed with which new orders have taken off indicates a recovery of greater-than-normal strength, although it should be remembered that this past recession was unusually severe and protracted.

Production

Production also rose smartly, pulled along by the new order locomotive. The March increase, with 46 percent of the firms increasing and only 13 percent decreasing production, was slightly greater than the February rise. This rapid output gain was the third in a row and also the best since May 1979.

Employment

Employment enjoyed a very good jump for the second consecutive month. Hiring and rehiring began, and the March increase was more than twice as great as that in February; it was also the highest in close to four years (since May 1979). Twenty-seven percent of the firms increased their work force, compared to only 9 percent that further pared payrolls.

Thus, the economic Spring finally has sprung, and the new year is beginning with a vigor not seen in several years. A new indicator series just added to this survey shows that the recovery was fueled in March by a major step-up in purchasing commitments by Arizona firms. The turnaround, now that it has finally arrived, has been dramatic, and the recovery grows stronger with each passing month.

The results of the March purchasing survey are shown in Table 1.

TABLE 1

MARCH PURCHASING SURVEY

Key Indicators	*Percent of Purchasing Managers Indicating Each Response (March compared to February)*		
	Higher	*Same*	*Lower*
Prices paid for major commodities	20	70	10
Delivery time from vendors	25	64	11
Purchased materials inventory level	31	41	28
New orders received	48	37	15
Production	46	41	13
Employment	27	64	9

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

APRIL

April was the third consecutive month of significant improvement in business activity. All economic indicators again flashed a "go" signal, according to the April business survey of Arizona's purchasing management associations. "New orders received from customers" enjoyed its largest increase in close to 10 years, and delivery times on shipments from vendors stretched further, indicative of the higher levels of business activity.

Prices

Prices paid for major purchased items increased again; the April increase rate was twice as great as the rate in March. Higher prices were reported by 25 percent of the purchasing managers; only 5 percent paid lower prices in April than in March, while 70 percent said prices were unchanged. This increasing price trend is normal in a strong recovery; as demand moves up, vendors see the opportunity to hike prices after almost a year in which a sluggish economy put a lid on prices.

Delivery Time

Delivery time on shipments from vendors lengthened for the sixth consecutive month, and April saw the largest increase since February 1980. Thirty-two percent of the firms said they waited longer in April to receive deliveries from vendors, compared to a much-smaller 7 percent that experienced faster vendor service. As the recovery gathers momentum, further lengthening of lead times will occur, for vendor inventories are depleted, and it will take time to raise production sufficiently to rebuild stocks.

Inventory Levels

Inventory levels of purchased materials increased for the third month in a row. Higher inventories were

reported by 31 percent of the firms, compared to 24 percent that cut stocks. While not a major jump, the increase indicated that Arizona firms are attempting to boost inventory, which is a marked change from the major liquidations that the recession forced from February 1981 to January 1983. The change to inventory rebuilding will further accentuate the recovery.

New Orders

New orders received from customers rose sharply, as the economy continued to rebound. Fifty-three percent of the purchasing managers said their firms booked more new business in April than in March, which was more than three times the 13 percent who saw their order books contract. This increase was the fourth consecutive monthly rise in new orders and the largest increase in almost 10 years (since May 1973). The new order series is probably the best indicator of the strength of the upswing, and a strong recovery has finally materialized.

Production

Production of Arizona firms also jumped significantly, in response to the incoming order flow. This was the fourth consecutive increase and the largest rise in more than four years (since March 1979). Higher production was reported by 46 percent of the firms; only 8 percent cut output.

Employment

Employment rose in April for the third consecutive month. Twenty-eight percent of the firms increased their work force, compared to only 12 percent that cut payrolls. While the net increase rate was smaller than it was in March, it still was indicative of the speed with which the turnaround has taken place; a substantial lag in new hires is normal. The employment indicator is responding faster than expected.

Thus, a brisk, broadly-based recovery is underway. It is fueled by an impressive step-up in purchases by Arizona firms, as 55 percent made larger purchase commitments in April than in March, and only 16 percent cut back on purchase actions. The Arizona economy will go into the summer months on a strongly positive note, and continued growth can be anticipated over the balance of the year.

The results of the April purchasing survey are shown in Table 2.

TABLE 2

APRIL PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (April compared to March)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	25	70	5
Delivery time from vendors	32	61	7
Purchased materials inventory level	31	45	24
New orders received	53	34	13
Production	46	46	8
Employment	28	60	12

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

MAY AND JUNE

The business recovery continued to gain speed and breadth in both May and June, according to results of the monthly business surveys of Arizona's purchasing management associations. All activity indicators again were strongly positive in both months, as a full-fledged recovery picked up momentum.

Prices

Prices paid for major purchased items jumped again in both May and June, marking the third and fourth consecutive months of noticeable increases. The June hike was the largest in almost two years (since September 1981). The monthly increase rate on the price indicator has gone up in each of the past five months as improved demand levels have permitted vendors to test the market with further price increases. Higher prices were reported by 39 percent of the purchasing managers; only 5 percent paid lower prices in June than in May, while 56 percent said prices were unchanged. Further price increases will occur during the last half of the year, supported by the continuing business upswing.

Delivery Time

Delivery time on shipments from vendors continued to lengthen, marking eight consecutive monthly increases. The June jump was the highest in more than three years (since February 1980) with 43 percent of the purchasing managers facing longer lead times, and only 12 percent enjoying faster delivery performance. Vendor

lead times have been steadily increasing, indicative of the higher levels of activity experienced by suppliers.

Inventory Levels

Inventory levels of purchased materials rose again during both May and June. Thirty-four percent of the firms added to stocks in June, while 25 percent reduced inventories. Arizona firms continued to maintain a lean inventory/sales ratio, and rising demand was quickly translated into increased output.

New Orders

New orders received from customers went up sharply again in June, for the sixth consecutive month. The increase rate was smaller than in May but still represented a very strong performance. Fifty-two percent of the firms booked more new customer orders in June than in May, which was three times the 17 percent that saw their order books contract. This strong new order performance bodes well for a robust second half of the year.

Production

Production rose again in June, following closely the vigorous climb in new orders. This was the sixth consecutive monthly increase, with 49 percent of the firms raising output, compared to a much smaller 12 percent that reduced production.

Employment

Employment enjoyed a very healthy increase during May and June. Thirty-five percent of the firms added to their work force in June, which was four times the 9 percent that pared payrolls. June marked the fifth month of strong employment increases, demonstrating the characteristics of a long, strong economic recovery rather than those of the fragile recovery anticipated earlier.

Thus, a brisk economic recovery is underway, fueled in large part by increased purchase commitments to support the higher levels of business activity. Sixty percent of the firms increased their purchases in June compared to May; only 18 percent cut back their commitments. The economy's vibrant performance in all areas during first-half 1983 is building on an already-strong recovery foundation and is setting the stage for an even healthier second-half 1983.

The results of the May and June purchasing surveys are shown in Tables 3 and 4.

TABLE 3

MAY PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (May compared to April)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	33	63	4
Delivery time from vendors	37	54	9
Purchased materials inventory level	37	40	23
New orders received	58	29	13
Production	56	35	9
Employment	32	56	12

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

TABLE 4

JUNE PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (June compared to May)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	39	56	5
Delivery time from vendors	43	45	12
Purchased materials inventory level	34	41	25
New orders received	52	31	17
Production	49	39	12
Employment	35	56	9

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

JULY

Arizona's economic recovery is now in full swing, according to the upbeat performance of all indicators measured by the July monthly business survey of the state's purchasing management associations. The outlook for second-half 1983 is very positive. The recovery that began last January has picked up speed rapidly during the last four months.

Prices

Prices paid for major purchased items went up again, for the seventh month in a row. The monthly increase

rate was the largest since August 1981, although still substantially lower than it was during almost all of the inflation-plagued months from 1977 to 1981. Higher prices were paid in July than in June by 41 percent of the purchasing managers; only 3 percent enjoyed lower prices, while 56 percent said prices were unchanged. As the strong recovery pits a stepped-up demand for materials and supplies against a recession-induced decrease in supply, the normal result is upward price pressure. However, the higher prices do not suggest an early return to the dangerously-high inflation rates of the 1977 to 1981 period for three reasons: (1) there is still a great deal of unused plant capacity that can be brought on-stream, (2) wage demands have moderated, and (3) productivity is increasing, which will hold production costs down.

Delivery Time

Delivery time on shipments from vendors lengthened for the ninth consecutive month and at an increasing rate. July saw the highest increase so far in the current upswing, and the largest rise since November 1979, as vendors found it difficult to fill incoming orders from their diminished inventories. Forty-five percent of Arizona firms faced longer vendor lead times in July; only 7 percent enjoyed faster vendor delivery performance. Lead times will extend even further during the next several months.

Inventory Levels

Inventory levels of Arizona firms rose again, for the sixth month in a row and at the highest monthly rate since the increases began last February; at that time, the three-year string of cutbacks was snapped. Forty-two percent of the firms added to inventory; only 17 percent cut stocks. The inventory build-up, as companies raise stock levels to catch up with increasing sales, will continue during second-half 1983, adding further momentum to the recovery.

New Orders

New orders received from customers registered a sizable increase in July — the seventh in a row — and at a higher rate than in June. Fifty-eight percent of the firms saw their incoming order books grow in July, compared to June; this number was four times the 14 percent that saw a cutback in new orders. The last six months have shown consistently healthy growth in new orders, indicative of the vigor of the current upswing.

Production

Production jumped again, for the seventh month in a row, pulled along by the new order hikes. Higher output was reported by 51 percent of the firms, compared to only 11 percent that reduced production. The unbroken string of advances since last January should continue for the balance of 1983.

Employment

Employment saw its sixth consecutive month of strong growth in July, as the buoyant new order and production rates were translated into the need for more employees. Thirty-eight percent of the firms added to their work force, which was three times the 12 percent that decreased payrolls. Employment typically lags behind an upswing, but the strong employment increases registered so far in 1983 reflect a much stronger-than-anticipated bounce-back by the Arizona economy.

Thus, Arizona's economic performance continued to advance strongly as the state moved into the last half of the year. Further business gains in the third quarter — and probably for the balance of 1983 — were ensured by: increasing purchases by Arizona firms (59 percent increased material purchases in July over June, compared to only 16 percent that cut purchases); efforts to rebuild inventories to keep them in line with higher sales; and the effects of the mid-year tax cut. Its current momentum will make the recovery self-sustaining for at least several months to come, regardless of what happens to interest rates.

The results of the July purchasing survey are shown in Table 5.

AUGUST

The economy continued on an expansionary course in August, according to results from the monthly business survey of Arizona's purchasing management associations. However, the rate of growth slowed somewhat compared to the earlier summer months. While all indicators of business activity continued positive, growth in new orders received and in production were at half July's rate. Both employment and prices paid for major commodities advanced but at a slightly lower rate than in the previous month. Instead of the rapid acceleration experienced dur-

TABLE 5

JULY PURCHASING SURVEY

Key Indicators	*Percent of Purchasing Managers Indicating Each Response (July compared to June)*		
	Higher	*Same*	*Lower*
Prices paid for major commodities	41	56	3
Delivery time from vendors	45	48	7
Purchased materials inventory level	42	41	17
New orders received	58	28	14
Production	51	38	11
Employment	38	50	12

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

ing the past six months (February through July), the economy shifted into overdrive and began to operate at a pace that will prove more sustainable during the next several quarters.

Prices

Prices paid for major purchased items continued to advance at about the same rate as in July, marking their fourth consecutive monthly hike as the recovery received an inflationary kick. Yet the increase rates were still well under those experienced from 1977 until third quarter, 1981. Thirty-eight percent of the purchasing managers paid higher prices; only 3 percent enjoyed lower prices in August than in July, while 59 percent said prices were unchanged. Although the inflationary tendency is of concern, some price increases are to be expected during a strong recovery that follows a one-year period in which economic retrenchment held many prices stable and forced some downward price adjustment.

Delivery Time

Delivery time on shipments from vendors stretched for the 10th consecutive month. The August increase was the largest since October 1979. Forty-six percent of the purchasing managers said it took longer to receive deliveries from vendors in August than in July, compared to only 6 percent who got faster delivery service. The very rapid overall growth in the Arizona economy, which began last January, and the surprising strength of new orders caught many suppliers off guard. The tightening of supply lines resulted in vendor backlogs and delayed deliveries. No relief is in sight for the immediate future.

Inventory Levels

Inventory levels of purchased materials rose in August, the seventh consecutive monthly increase. The rise was slight, however, since longer lead times delayed reception of goods. Thirty-one percent of the firms added to inventory, compared to 22 percent that cut stocks. The August net increase was approximately one-third that experienced in July.

New Orders

New orders received from customers continued to increase in August, the eighth month in a row, but at a rate only half July's increase rate. Forty-four percent of Arizona firms saw their order books expand in August, compared to only 20 percent that experienced a decline in new orders. The expansion, which has occurred at varying rates throughout 1983, is beginning to be reflected in bottom-line profits and will continue to fuel growth at least through the balance of the year.

Production

Production rose again, for the eighth consecutive month, and the growth rate was consistent with the new order increase. Higher output was reported by 41 percent of the firms; 17 percent reduced output. Even though the August production increase was about half the July rise, it still reflects strong performance.

Employment

Employment increased again in August, running the string to seven months. Thirty-two percent of the firms added to their work force, which was about three times greater than the 11 percent that pared payrolls. The August increase was down from the previous month but still very strong. The bounce-back in payrolls has been more pronounced than had been expected when the recovery began last January, and much of the ground lost during the 1981-82 recession has been recovered.

Purchases

Purchases of materials and services by Arizona firms escalated again in August, as purchasing managers continued to meet the higher production schedules called

for by an increasing new order rate. Forty-eight percent of the firms increased their purchases, which was three times the 16 percent that reduced their buys. This jump was somewhat less than in July, but the underlying expansionary pressures remained strong.

Thus, while the overall rate of expansion in Arizona business was not quite as high in August as it was in July, there was no sign that the recovery is anywhere near the end of the up cycle. As business expands purchases, inventory, and output in response to the high rate of incoming orders, new capital equipment spending will begin, further extending the recovery. The overhang of high interest rates and the huge national budget deficit will dampen the expansion somewhat, but the recovery should continue well into 1984 at a sustainable rate.

The results of the August purchasing survey are shown in Table 6.

TABLE 6

AUGUST PURCHASING SURVEY

	Percent of Purchasing Managers Indicating Each Response (August compared to July)		
Key Indicators	*Higher*	*Same*	*Lower*
Prices paid for major commodities	38	59	3
Delivery time from vendors	46	48	6
Purchased materials inventory level	31	47	22
New orders received	44	36	20
Production	41	42	17
Employment	32	57	11
Purchases	48	36	16

Source: Purchasing Management Association of Arizona and the Purchasing Management Association of Southern Arizona.

ARIZONA SALES OF ELECTRICAL POWER
(In Thousands of Kilowatt Hours)

	1982	*1981*	*Percent Change From Prior Year*	*Percent Change From Prior Month*
June	2834.5	2829.4	+0.2%	+20.9%
July	3350.6	3300.1	+1.5	+18.2

Source: Arizona Power Authority (based on reports from major suppliers).

Arizona Business Scene

Arizona Personal Income

Total personal income in Arizona has grown rapidly since the depression of the 1930s, more rapidly than in the surrounding Rocky Mountain and Southwest regions, which had growth rates higher than the national average. Personal income includes income from sources such as wages, salaries, dividends and interest; and from transfer payments such as social security and unemployment insurance.

Arizona personal income grew 263 percent between 1970 and 1980: much more rapid growth than during the 1950s (160 percent) or 1960s (149 percent) but slower than during the 1940s (308 percent). Personal income grows for several reasons, each of which varies in importance from year to year, such as population growth, inflation, real wage and salary increases, and changes in the employment structure toward a greater proportion of high-paying professional jobs. In 1980 and 1981, due to recessionary economic conditions, Arizona's rate of growth in personal income slowed until it neared both the average of the surrounding regions and the national average.

Personal income is commonly adjusted for population growth, creating per capita personal income (personal income divided by population). In contrast to personal income, per capita income growth in Arizona from 1940 to 1980 only slightly exceeded that of the Mountain region and the nation as a whole and was less than the growth in the Southwest region. During the 1950s and 1960s, the rate of growth in Arizona exceeded that of the surrounding regions, but the growth rate during the 1970s lagged considerably behind. This slower growth continued in 1981. Arizona's per capita income in 1981 remained below that of other areas at $9,754, compared to $10,056 in the Mountain states, $10,405 in the Southwest states, and $10,491 nationwide. Arizona ranked 31st of the 50 states, with Alaska having the highest per capita income at $13,763, followed by Connecticut at $12,816; Mississippi had the lowest per capita income at $7,408.

Another measure of income is disposable personal income, which subtracts total tax and non-tax government payments from personal income. This measure can also be divided by population, resulting in per capita disposable personal income. Tax and non-tax payments to government average 16 percent of personal income nationally, lowering the per capita disposable income to a national average of $8,809 in 1981. The proportion of personal income in Arizona that goes to government payments is only 14.2 percent, ranking 45th among the states. The effect is to narrow the gap in per capita disposable income between Arizona and other areas, with the 1981 Arizona figure at $8,373. Arizona's relatively low tax and non-tax government payments are largely due to relatively low state and local taxes.

In Arizona, 80 percent of the total tax and non-tax payments go to the Federal government, predominantly through income tax. The State receives 15 percent of these payments, with the remaining 5 percent going to local governments. More than 60 percent of the State's receipts are derived from income tax; and nearly 30 percent result from non-tax payments, such as tuition and fees paid to government-operated schools and hospitals, fines and penalties, and donations. Local government payments are predominantly of the non-tax nature.

Personal income is derived from many sources. Earnings from wages and salaries (including proprietors' incomes and other labor income, such as workers' compensation) are the main source, accounting for 66 percent of Arizona's 1981 personal income, after adjustment for social security payments. Dividends, interest, and rent and royalties account for 19 percent of personal income, while transfer payments constitute the remaining 15 percent. Interest is the largest component of its category, accounting for 15 percent of all personal income. Transfer payments include government payments to the individual as well as military retirement and veterans' benefits. The largest category of transfer payments is retirement, disability, and health insurance payments, of which social security is the primary type. Social security accounts for

43 percent of all transfer payments and more than 6 percent of all personal income. In contrast, other forms of government payments to individuals are relatively insignificant, including unemployment insurance payments (2.5 percent of transfer payments) and income maintenance payments (6.3 percent), which includes food stamps (3.0 percent).

Wage and salary employment is the primary source of personal income. In 1981, more than 1 million people in Arizona and nearly 96 million people nationally were employed in wage and salary jobs. These figures include people working on part-time jobs. Table 1 details employment by industry for the United States and for Arizona, revealing substantial differences in the employment structure between Arizona and the nation as a whole. The largest difference occurs in the manufacturing sector, where the proportion of workers in Arizona is approximately two-thirds of the national average. The retail trade, construction, mining, and agriculture industries all have proportionately more employees in Arizona.

The personal income derived from each sector varies considerably, even after adjusting for the number of employees working in each sector. This variation is due to several factors, including differences by sector in the percentage of part-time employees, in the mix of occupations (e.g., the proportion of clerical to professional workers), and in wage levels for the same occupations. Table 2 shows the average income per employed person by industry. Because of the factors noted above, it cannot be assumed from this table that an accountant in the manufacturing industry, for example, would earn twice that of his counterpart in the retail trade industry, even though the average earnings are twice as high in the manufacturing industry.

Average wages were 2 percent higher in the United States as a whole than in Arizona in 1981, although the average in Arizona was slightly higher in several sectors: mining, construction, manufacturing, transportation and public utilities, retail trade, federal military, and state and local government. The highest average income in Arizona is earned in the mining sector, and the lowest average income occurs in the agricultural services sector, followed by the retail trade sector, where many part-time workers are employed. Within the government sector, where the average worker earns slightly more than in the private sector, the difference in average income between federal civilian employees and employees of state and local government is 38 percent. Thus, while the average federal civilian employee earns 37 percent more than the average private sector employee, state and local government employees in Arizona actually earn slightly less than workers in the private sector.

TABLE 1

WAGE AND SALARY EMPLOYMENT BY INDUSTRY
1981

	United States	*Arizona*
Total Non-farm Employment	95,993,000	1,099,230
	Percent	*Percent*
Private Sector	80.6	79.7
Agricultural Services, Forestry, Fisheries	0.6	1.4
Mining	1.2	2.2
Construction	4.3	6.6
Manufacturing	21.1	14.5
Transportation and Public Utilities	5.4	4.8
Wholesale Trade	5.6	4.7
Retail Trade	15.8	18.3
Finance, Insurance and Real Estate	5.7	5.8
Services	20.9	21.3
Government and Government Enterprises	19.4	20.3
Federal, Civilian	3.1	3.5
Federal, Military	2.6	3.0
State and Local	13.7	13.8

Source: United States Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August 1982.

TABLE 2

AVERAGE INCOME PER
EMPLOYED PERSON BY INDUSTRY
1981

	United States	*Arizona*
Total, All Non-farm Wage and Salary Workers	$15,356	$14,999
Private Sector	15,500	14,915
Agricultural Services, Forestry, Fisheries	9,748	7,818
Mining	25,738	26,444
Construction	19,108	19,342
Manufacturing	19,057	19,278
Transportation and Public Utilities	21,969	22,237
Wholesale Trade	19,481	18,031
Retail Trade	9,389	9,513
Finance, Insurance and Real Estate	16,298	15,289
Services	12,431	12,055
Government and Government Enterprises	14,757	15,332
Federal, Civilian	21,558	20,423
Federal, Military	10,919	11,948
State and Local	13,977	14,805

Source: United States Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, August 1982.

After the economy recovers from the recent recession, personal income in Arizona is likely to resume its rapid growth, fueled by large population increases. It is less clear, however, whether per capita personal income growth will once again exceed the growth rate of the surrounding regions.

Metropolitan Phoenix Consumer Price Index

SECOND QUARTER, 1983

Prices of goods and services in the Phoenix metropolitan area rose 1.7 percent during second quarter, 1983, up from the slight 0.2 percent increase of the previous quarter. During the past year, the Phoenix Consumer Price Index (CPI) increased a modest 0.9 percent.

The CPI for the Phoenix metropolitan area, on which these inflation figures are based, is prepared by the Bureau of Business and Economic Research, College of Business Administration, Arizona State University. The quarterly CPI results from comprehensive surveys conducted by the Bureau in cooperative cosponsorship with Valley National Bank.

Food

The *Food* category rose moderately in the second quarter, increasing 1.4 percent, down from last quarter's 2.4 percent increase. Food Away from Home led with an increase of 3.7 percent, while Food at Home climbed only 0.2 percent. Increases were noted in Fruits and Vegetables (3.8 percent) and Cereal and Bakery Products (1.2 percent). Decreases occurred in Other Food at Home (– 0.2 percent), Meats, Poultry, Fish, and Eggs (– 0.4 percent), and Dairy Products (– 2.3 percent.).

The Fruits and Vegetables increase can be attributed to the second consecutive weather-induced rise in the prices of fresh vegetables (22.3 percent), coming on the heels of a 14.3 percent increase last quarter. The increase was due mainly to a near doubling in lettuce prices and a 22.7 percent rise in potato prices. Spurred by much lower prices for seasonal fruits such as peaches, fresh fruit prices showed the largest decline (– 9.6 percent) since first quarter, 1982. The modest increase in Cereal and Bakery Products is attributable to increases in prices for bread other than white (3.8 percent), and cereal (3.5 percent).

The small decrease in the Other Food at Home category was due chiefly to a 6.9 percent decrease in carbonated drinks, excluding non-dietary cola. In the Meats, Poultry, Fish, and Eggs category, the price of beef increased 3.7 percent; other meats rose 2.1 percent; and fish and seafood increased 0.9 percent. These price increases were offset by large declines in pork (– 5.0 percent), poultry (– 5.7 percent), and eggs (– 5.9 percent). The decline in pork prices was the largest since third quarter, 1979. Dairy Products declined due to decreases in fresh milk and cream (– 4.7 percent) and butter (– 2.9 percent), offsetting the increases of the previous quarter. The quarterly decline in the price of Dairy Products was the first since second quarter, 1976.

Housing

Housing costs increased 1.8 percent during the second quarter. After two quarters of decline, these costs were still 2.8 percent lower than they were one year ago. Each of the three *Housing* subcategories posted higher prices this quarter, led by a 6.9 percent increase in Fuel and Other Utilities, the largest increase in this category since second quarter, 1980. The cost of Household Furnishings and Operations increased a more moderate 2.3 percent. Shelter costs rose only 1.0 percent, following four consecutive quarters of declining prices.

Despite the large quarterly increase in Fuel and Other Utilities, costs in this category were only 3.7 percent higher than they were one year ago. The second quarter's increase was caused almost entirely by a 15.0 percent boost in electricity rates, due in part to the change to summer rates, and by a 17.5 percent jump in water and sewerage maintenance rates.

A 9.9 percent rise in textile housefurnishings and a 6.9 percent boost in furniture costs contributed to the increase in Household Furnishings and Operations. These increases were moderated by a 0.4 percent decline in prices of housekeeping supplies and by stable prices for television, radio, and sound equipment.

Both Residential Rent and Homeownership costs contributed to the increase in Shelter costs. Residential Rent continued its trend of small increases (0.6 percent) while Homeownership rose 1.1 percent, following four quarters of decline. The increase in Homeownership was due strictly to higher home purchase prices (2.2 percent). All other Homeownership costs remained steady or declined, including the sixth consecutive quarterly decline in mortgage interest rates (– 1.7 percent).

Apparel and Upkeep

The *Apparel and Upkeep* category increased 1.8 percent during second quarter, 1983, but was only 0.2 percent higher than it was one year ago due to declines in two of the three previous quarters. Consumers paid 4.0 percent more for Men's and Boys' Apparel; however, a decrease in the cost of footwear (– 2.3 percent) helped to moderate these increases.

Transportation

Transportation costs rose 2.5 percent during the second quarter, following two quarters of small decreases; the increase over one year ago was only 2.0 percent. Private Transportation costs rose 2.2 percent, due primarily to a 2.4 percent increase in the cost of used cars and a 10.6 percent jump in gasoline prices. The latter was due only in part to the 5-cents-a-gallon federal gas tax increase on April 1. Gasoline prices are still 3.9 percent less than they were one year ago, however. Most of the other Private Transportation categories declined: vehicle maintenance and repair and vehicle finance charges dropped 2.5 percent and 4.2 percent respectively; vehicle parts and equipment prices fell 6.4 percent; and new car prices declined 1.4 percent. A 12.6 percent increase in airline fares pushed the Public Transportation component 7.9 percent higher.

Medical Care

Medical Care costs rose only 1.0 percent during second quarter, 1983, but remained 14.3 percent higher than they were one year ago. Prescription drugs increased 3.2 percent; non-prescription drugs and medical supplies rose 2.8 percent. The major medical expenses posted modest increases: professional services cost 0.5 percent more, and health insurance rose 1.0 percent; insurance rates were still 32.4 percent higher than they were one year ago. Hospital rooms and related services showed no change.

Entertainment

Entertainment prices fell 2.1 percent during the second quarter, the largest decline since fourth quarter, 1979. The cost of reading materials remained the same, the only subcategory that did not decrease this quarter. Sporting goods and equipment prices dropped 1.0 percent; admissions and fees declined 3.7 percent, due in part to seasonal factors; and prices of toys and hobbies fell 1.8 percent, the largest decline ever.

Other Goods and Services

Prices of *Other Goods and Services* rose 2.7 percent, led by large increases in tuition and other school fees (7.4 percent, the largest since the third quarter, 1978) and in personal expenses such as bank and legal fees (7.0 percent). Cigarette price increases slowed to only 1.3 percent after large jumps in the three previous quarters; cigarette prices were 20.0 percent higher than they were one year ago.

United States and Comparison Cities

The second quarter's price changes in the Phoenix metropolitan area (1.7 percent) were comparable to those in the United States as a whole (1.3 percent), Chicago (0.9 percent) and Los Angeles (1.8 percent). The increases in both *Housing* and *Other Goods and Services* were larger in Phoenix than in each of the comparison areas. However, the decline in the *Entertainment* category was more favorable than in the other areas.

The percentage change in ALL ITEMS from one year ago was less in Phoenix (0.9 percent) than in the United States as a whole (3.5 percent), Chicago (3.0 percent), and Los Angeles (1.7 percent). The one-year price increases for the Phoenix area were larger than for the comparison cities in the category of *Medical Care*. However, in the categories of *Housing, Apparel and Upkeep,* and *Other Goods and Services,* the increases in Phoenix during the past year were less than they were in the comparison areas.

CONSUMER PRICE INDEX
SECOND QUARTER, 1983
Metropolitan Phoenix
(1977 = 100)

Group	*Last Qtr. Index*	*This Qtr. Index*	*Percentage Change*	*Year Ago Change*	*1969 Base Index*
ALL ITEMS	167.6	170.5	1.7	0.9	264.9
Food and Beverages	157.3	159.6	1.5	3.6	249.5
Food	158.0	160.2	1.4	3.5	254.5
Food at Home	158.3	158.6	0.2	2.3	263.1
Cereal and Bakery Products	162.3	164.3	1.2	4.8	267.6
Meats, Poultry, Fish, and Eggs	156.5	155.9	– 0.4	0.7	248.1
Dairy Products	155.1	151.5	– 2.3	1.3	228.6
Fruits and Vegetables	159.0	165.1	3.8	6.3	284.9
Other Food at Home	148.0	147.6	– 0.2	0.8	285.9
Food Away from Home	154.8	160.6	3.7	5.8	236.1
Housing	179.2	182.5	1.8	– 2.8	264.1
Shelter	191.7	193.6	1.0	– 5.5	268.9
Residential Rent	146.5	147.4	0.6	3.2	199.3
Homeownership	207.8	210.0	1.1	– 7.5	280.6
Homeowners' Financing, Taxes and Insurance	212.1	214.8	1.3	– 8.2	0.0
Mortgage Interest Rates	146.7	144.3	– 1.7	– 24.3	0.0
Home Purchase	192.9	197.1	2.2	2.7	0.0
Fuel and Utilities	149.5	159.8	6.9	3.7	318.5
Gas and Electricity	164.0	180.3	9.9	0.9	0.0
Household Furnishings and Operations	140.6	143.9	2.3	4.0	222.9
Apparel and Upkeep	132.4	134.8	1.8	0.2	196.7
Transportation	160.3	164.4	2.5	2.0	273.7
Private Transportation	158.4	161.9	2.2	1.8	269.7
New and Used Cars	158.6	159.5	0.6	4.4	0.0
Gasoline	174.2	192.6	10.6	– 3.9	0.0
Public Transportation	192.8	208.1	7.9	5.6	336.3
Medical Care	187.1	188.9	1.0	14.3	416.1
Entertainment	161.1	157.7	– 2.1	3.4	229.7
Other Goods and Services	146.1	150.0	2.7	9.4	269.9

A 0.0 in the last column indicates that 1969 base index is not available.

Source: Bureau of Business and Economic Research, College of Business Administration, Arizona State University, in cooperative cosponsorship with Valley National Bank.

United States and Comparison Cities

	United States		*Chicago*		*Los Angeles*	
Group	*Percentage Change From Last Quarter*	*Percentage Change From One Year Ago*	*Percentage Change From Last Quarter*	*Percentage Change From One Year Ago*	*Percentage Change From Last Quarter*	*Percentage Change From One Year Ago*
ALL ITEMS	1.3	3.5	0.9	3.0	1.8	1.7
Food	1.2	2.4	(0.3)	0.0	1.7	4.7
Food at Home	1.2	1.4	(0.7)	(1.5)	2.2	3.5
Food Away from Home	1.1	4.5	0.5	2.8	0.9	6.8
Housing	1.0	2.5	0.8	4.0	1.3	(0.5)
Shelter	1.0	1.8	0.8	3.4	1.3	(1.2)
Fuel and Utilities	1.3	6.9	1.1	9.2	7.7	7.5
Household Furnishings & Operations	0.7	2.1	0.3	1.2	(2.8)	(1.7)
Apparel and Upkeep	2.1	2.4	3.5	0.3	0.4	(0.6)
Transportation	2.2	3.7	1.9	1.3	4.0	2.5
Medical Care	0.9	9.4	1.0	10.7	0.6	8.2
Entertainment	0.7	4.4	0.2	1.8	(0.9)	(0.1)
Other Goods and Services	0.7	11.2	0.2	9.8	0.6	11.8

Source: Bureau of Labor Statistics, U.S. Department of Labor, Washington, D.C.